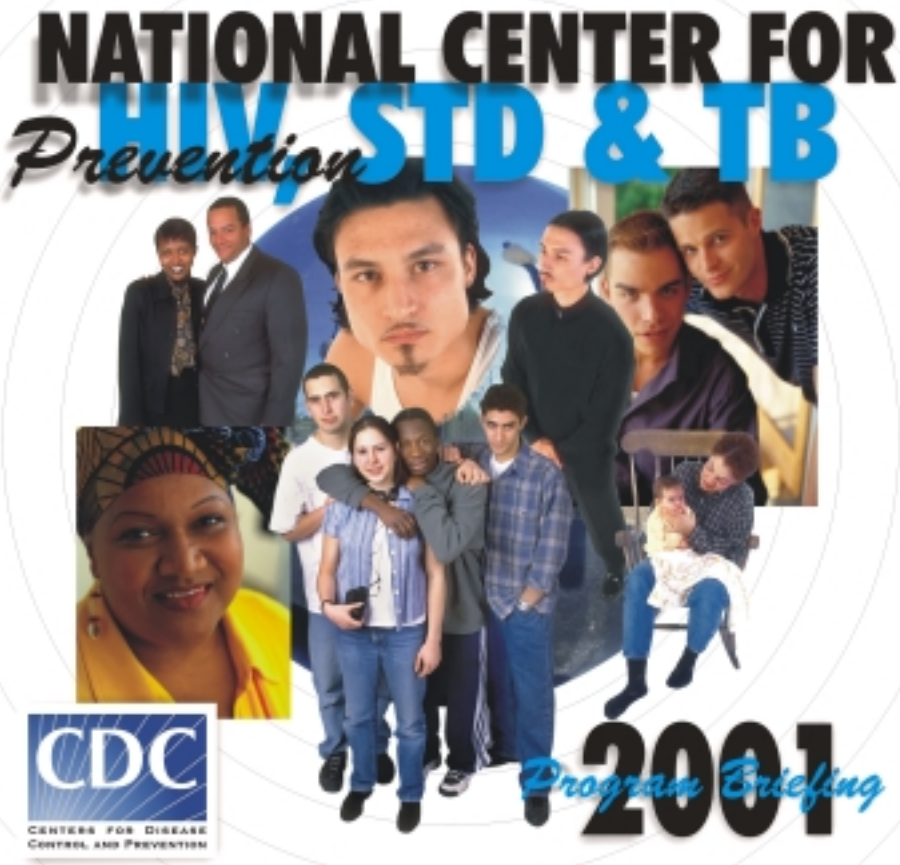


NCHSTP Program Briefing
March 5, 2001

NCHSTP Program Briefing 2001

Divisions of HIV/AIDS

Division of STD Prevention

Division of TB Elimination

Global AIDS Program

From the Director

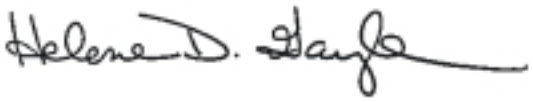
As we embark upon a new century I am honored to report that our nation's programs to prevent and control HIV/AIDS, sexually transmitted diseases and tuberculosis are thriving and making a real difference.

As Director of NCHSTP, I'm proud to report on the progress we have made together. To us, progress is a call to further action; it means we're heading in the right direction. The number of infants with AIDS has declined more than 81 percent. The rate of tuberculosis infection has dropped for the 7th straight year. AIDS-related deaths continue to decline in the United States. Prevention services for communities of color, men who have sex with men, and those living with the HIV virus have expanded. Syphilis today is virtually nonexistent in many parts of the country. But our work is far from over. There is still much progress to be made.

Every time an infection is prevented, it's progress. Every time a baby is born healthy, a recent immigrant seeks treatment, a teenaged girl says "no" to unprotected sex, it's progress. Every time a scared young man finds counseling for HIV/AIDS prevention, every time a woman in labor is protected from TB, every time a community bands together to fight sexually transmitted diseases – it's progress.

In the pages that follow, you will learn more about what we do and how we do it. More importantly, I hope you will understand why. Although much of our work involves science and statistics, behind every statistic is a human being and a human story. That's how we approach the challenge of disease prevention, and how we define progress.

This briefing book is designed to provide a sampling of our ongoing challenges, accomplishments, and research during FY 2000. It provides information about our work, and insight into our strategies. It reflects the hard work, dedication, focus, and self-sacrifice of the individuals who make up NCHSTP. Most importantly, however, we hope to illustrate the challenge – and the urgency – of continuing to protect America's future from HIV, sexually transmitted diseases and tuberculosis.

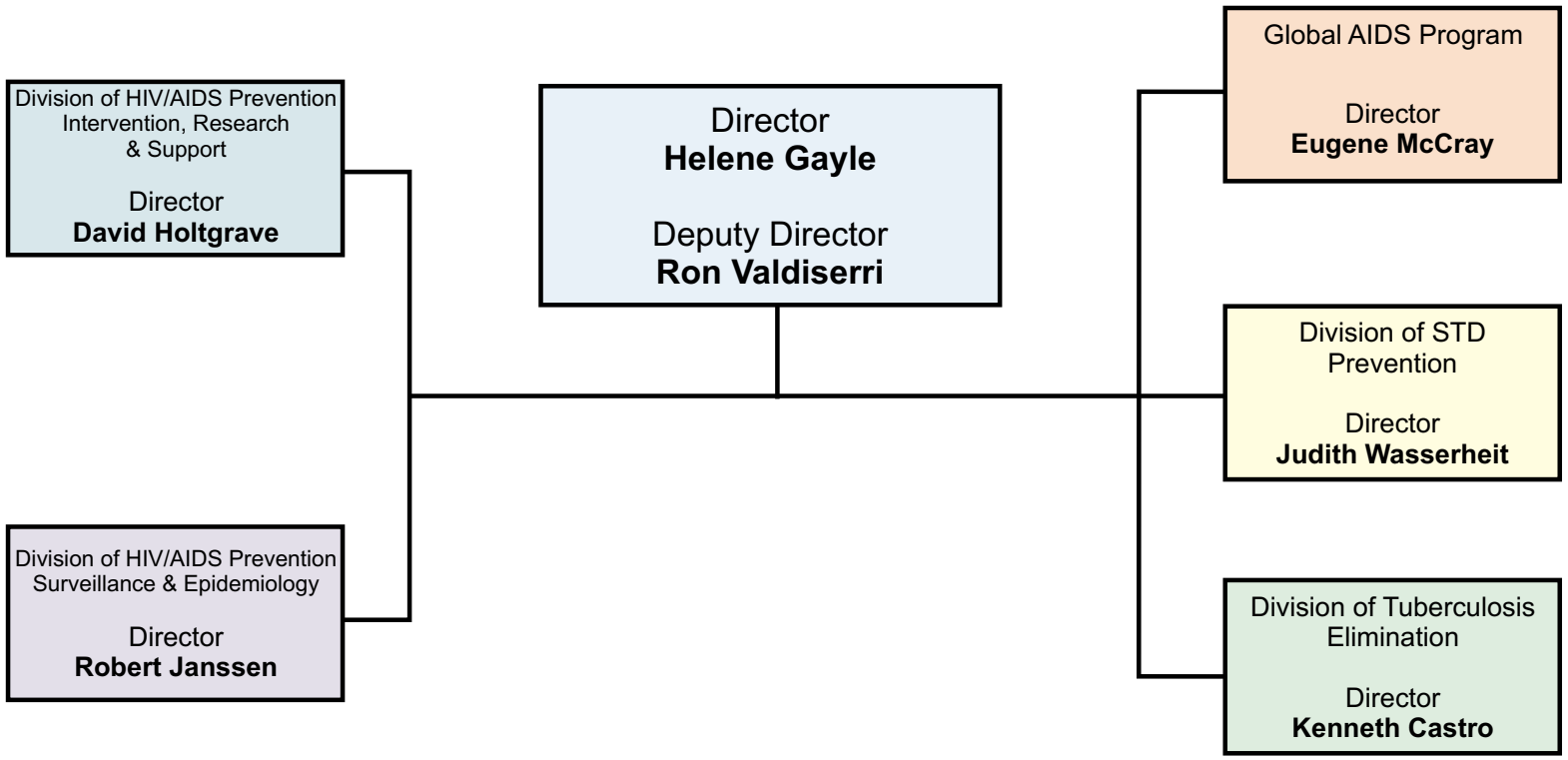


Helene D. Gayle, M.D., M.P.H.
Director
National Center for HIV, STD & TB Prevention

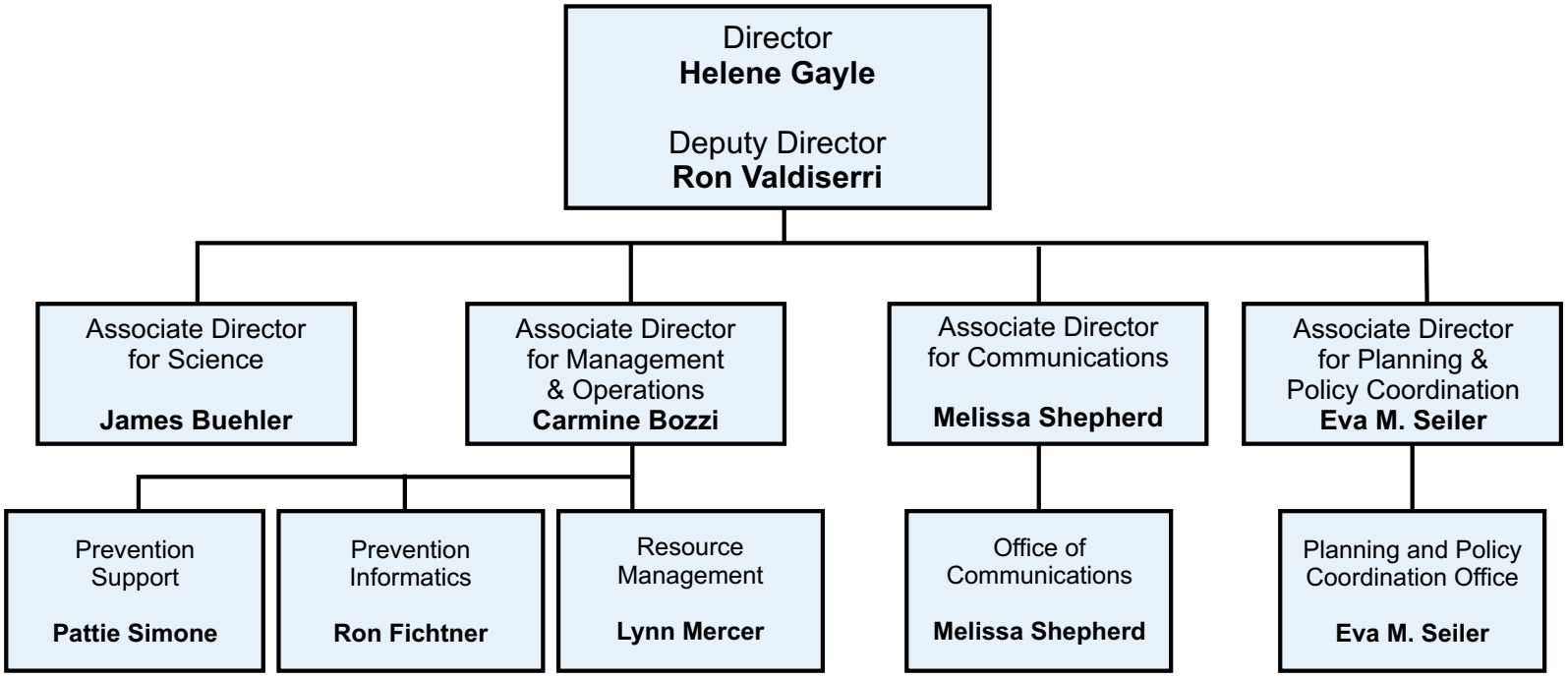
NCHSTP Mission

To provide leadership in preventing and controlling human immunodeficiency virus infection, other sexually transmitted diseases, and tuberculosis, in collaboration with partners at community, state, national, and international levels, applying well-integrated multidisciplinary programs of research, surveillance, technical assistance, and evaluation

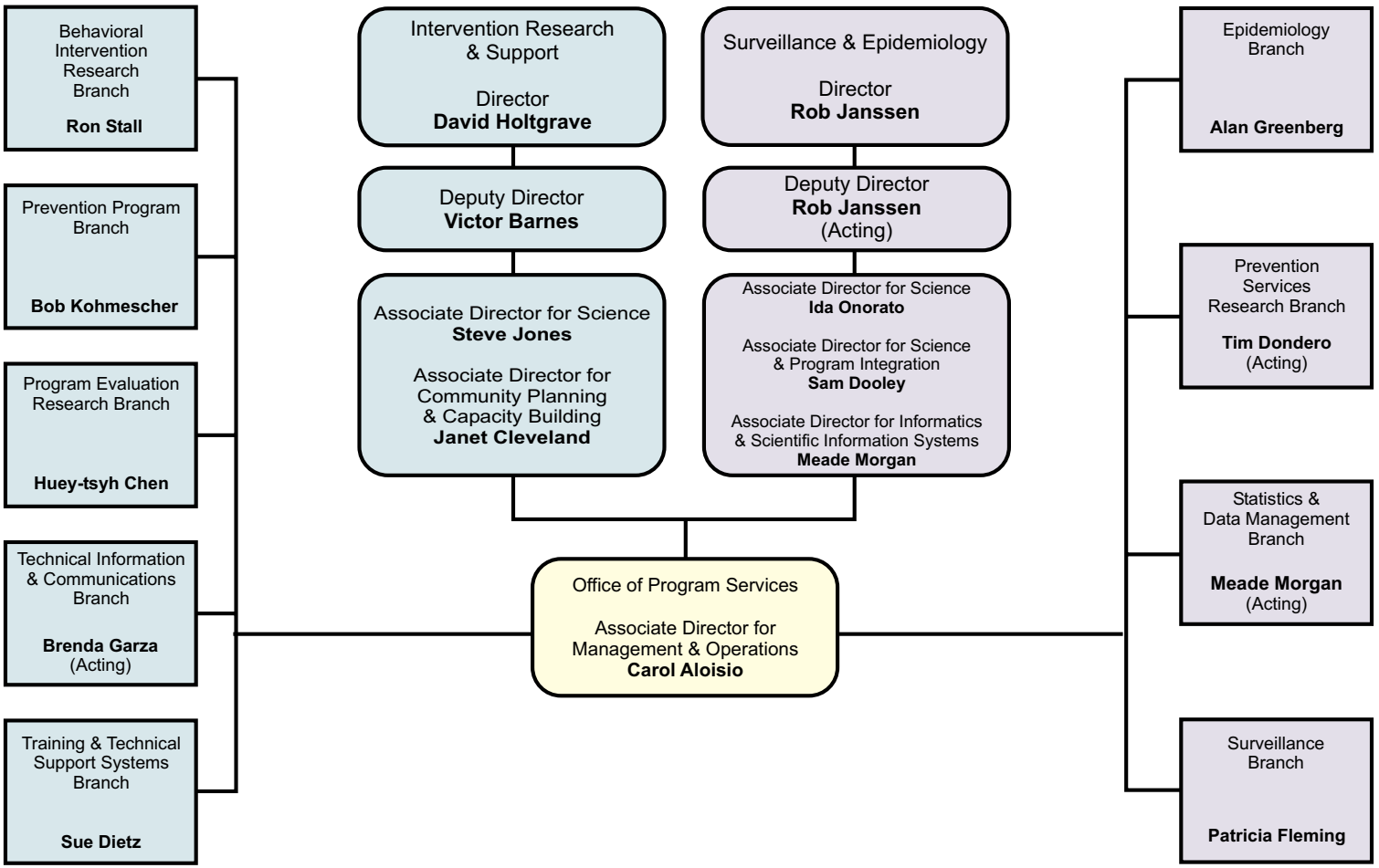
National Center for HIV, STD, and TB Prevention



NCHSTP
Office of the Director



Divisions of HIV/AIDS Prevention



CDC's HIV Prevention Strategic Plan

Background: CDC has completed a two-year process to develop a strategic plan for HIV prevention. The plan crosses all components of CDC that are engaged in HIV activities, including the National Center for HIV, STD, and TB Prevention, which has the bulk of the agency's HIV portfolio; the National Center for Chronic Disease Prevention and Health Promotion, which houses the Division of Adolescent and School Health as well as the Division of Reproductive Health; and the National Center for Infectious Diseases, which conducts a number of important lab-based studies of the virus and possible biomedical interventions, including vaccines.

The plan was developed in conjunction with our external partners and sister public health service agencies.

Accomplishments: The HIV prevention strategic plan encompasses CDC's domestic and international activities. Its overarching domestic goal is to cut new domestic infections in half — from 40,000 to 20,000 annually by the year 2005. To accomplish these activities, it has four national goals and one international goal:

- Decrease by at least 50% the number of persons in the United States at high risk for acquiring or transmitting HIV infection by delivering targeted, sustained and evidence-based HIV prevention interventions.

- Through voluntary counseling and testing, increase from the current estimated 70% to 95% the proportion of HIV-infected people in the United States who know they are infected.

- Increase from the current estimated 50% to 80% the proportion of HIV-infected people in the United States who are linked to appropriate prevention, care and treatment services.

- Strengthen the capacity nationwide to monitor the epidemic, develop and implement effective HIV prevention interventions and evaluate prevention programs.

- Assist in reducing HIV transmission and improving HIV/AIDS care and support in partnership resource-constrained countries (international goal -- see GAP section).

Challenges: Clearly, accomplishing these domestic goals will require close collaboration with other HHS agencies, including HRSA, SAMHSA, NIH, and HCFA, but also with the state and local partners. Representatives from other HHS components were involved in creating the plan; we have had ongoing conversations with them about developing action steps to make the plan a reality; and we will continue that dialogue to ensure maximum effectiveness and to avoid duplication of effort.

Under the first accomplishment, the top 5 priority populations are:

- Individuals who are already HIV infected;
- Men who have sex with men;
- Adolescents;
- Injecting drug users; and
- At-risk sexually active women and heterosexual men.

SAFE, A Serostatus Approach to Fighting the HIV/AIDS Epidemic

Background: CDC has announced an expanded approach to HIV prevention that involves extensive prevention outreach and services to those living with the disease. Every new HIV infection is the result of a seropositive individual inadvertently transmitting the virus. CDC believes that those who are unaware of their HIV status — and consequently not receiving prevention and care services — are contributing significantly to new HIV infections.

Because of treatment advances, more people with HIV infection are living longer and better lives. Services and interventions for high-risk negative persons may not address the needs of the HIV infected. The goals of SAFE (Serostatus Approach to Fighting the Epidemic) are now included throughout CDC's HIV Prevention Strategic Plan.

SAFE, initially focuses on expanding voluntary counseling and testing programs to reach all individuals living with HIV infection, including the estimated 200,000 - 275,000 Americans who are infected with HIV, but don't yet know it. There are several reasons to intensify efforts to reach infected individuals. First, individuals who know they are infected can benefit from prophylaxis for opportunistic infections, monitoring of their immune status, antiretroviral therapy (when recommended), and, if needed, substance abuse and/or mental health treatment. Second, studies indicate that after learning their HIV status, most infected individuals take steps to protect their partners. Third, new HIV therapies, by lowering viral load, may reduce the degree of infectiousness. While antiretroviral therapy will not eliminate transmission of HIV, it could reduce it. At a population level, if risk behavior (condom use, sexual practices, and number of partners) remain unchanged, this reduction in transmissibility could significantly impact the course of the epidemic. Because antiretroviral therapy can have toxic and adverse physical side effects, decisions about when to initiate use of these drugs should be made by the person living with HIV in consultation with their physician.

Through targeted awareness and testing programs, SAFE will focus on significantly increasing the number of infected people who learn their HIV status through voluntary testing (with a goal of 30,000 per year). High-risk individuals who test negative, particularly those whose partners are living with HIV, will be referred to prevention programs to help them stay uninfected.

The following four additional SAFE action steps target individuals who test positive for HIV:

- Increasing the number of infected individuals who are referred to, and continue to utilize, care and treatment services.

- Facilitating quality care and treatment by linking infected individuals to care, continually updating relevant guidelines and monitoring the quality and utilization of care [Health Resources and Services Administration (HRSA) is the lead federal agency for HIV treatment in the U.S.].

- Helping those living with HIV improve adherence to treatment regimens.

- Supporting individuals living with HIV, and their partners, to adopt and sustain life-long HIV and STD risk reduction behaviors.

SAFE expands upon existing prevention efforts, it does not replace them. Traditional HIV prevention efforts, proven to change behaviors and decrease risk among high-risk HIV-negative individuals, will remain a fundamental part of CDC's HIV prevention portfolio.

SAFE (continued)

Accomplishments: Current studies which will be used to advance SAFE include:

- Project HEART (Helping Enhance Adherence to Antiretroviral Therapy) is a clinic-based behavioral intervention for HAART-naive patients;

- ARTAS (Antiretroviral Treatment and Access Studies) involves case management to improve HAART access among newly diagnosed seropositives;

- Partnership for Health (Brief Safer Sex and Adherence Intervention for HIV Outpatient Clinics) is an intervention at level of care encouraging providers to promote safer sex and adherence among patients;

- SUMIT (Seropositive Urban Men's Intervention Trial) is a behavioral intervention trial to reduce risk of HIV transmission by HIV-positive men who have sex with men (MSM) and to increase disclosure of positive status to sexual partners.

- PHIPP (Prevention for HIV-Infected Persons Project) consists of five health department/CBO projects of various interventions to reduce HIV transmission by HIV-positive persons and includes coordinated evaluation. The PHIPP project is now in its third year and information is becoming available to share with others;

- INSPIRE (Interventions for SeroPositive IDUs: Research & Evaluation) is a behavioral intervention for intravenous drug users (IDUs) to lower sexual and drug use risk, increase access to care, and increase adherence to HAART regimens. The goals of INSPIRE include:

    - Decrease unprotected sexual behavior with uninfected partners.
    - Decrease drug injection and needle sharing with uninfected partners.
    - Facilitate consistent access to and utilization of appropriate medical care.
    - Improve adherence to medical treatments including HAART.

- In addition, CDC funded 20 projects to develop community coalitions to facilitate referrals to care and prevention services.

- In the health department HIV prevention applications for 1999, only one-third identified persons living with HIV infection as a priority population. In the continuation applications for FY 2001, nearly 58% identified this population as a priority.

- In FY 2000, CDC awarded funds to 34 CBOs to identify people of color at increased risk of infection, to encourage them to seek testing, and provide testing, counseling, and referral in settings most accessible to the target population.

Challenges:

- Increase the proportion of HIV-infected people in the U.S. who know they are infected from the current 70% to 95%;
- Increase the proportion of HIV-infected people who are linked to appropriate care, prevention services, and treatment services from the current estimated 50% to 80% by;
- Gain endorsement of SAFE by federal partners and implementation by their constituents; and
- Increase the number of established prevention programs for HIV positives in the state systems and community. Currently only about 40% of community programs target HIV-positive persons.

New HIV Counseling, Testing, and Referral Guidelines: Implications and Implementation

Background: As mentioned, SAFE initially focuses on expanding voluntary counseling and testing to reach all individuals living with HIV infection, including those who don't yet know they are infected. CDC's new HIV Counseling, Testing, and Referral Guidelines serve as a tool to understand the science and "best practices" regarding HIV counseling, testing, and referral – or CTR. They also guide policy recommendations at the federal, state, and local levels and facilitate development and implementation of high quality prevention services. The previous standards and guidelines, published in 1994, focused on services provided by publicly funded providers and presented basic tenets of HIV counseling and testing: testing should be informed, voluntary, and consented; both confidential and anonymous testing should be available; and clients should have access to information on HIV testing and transmission. Counseling was focused on "client-centered" counseling models, an interactive risk-reduction model, in which the counselor helps the client identify and acknowledge personal HIV risk behaviors, and commit to a single, achievable behavior change that could reduce the client's HIV risk.

Accomplishments: In 2001, the new HIV Counseling and Testing Guidelines will be published this Spring in the *MMWR Recommendations and Reports*.

- The new guidelines reflect current evidence-based practices and, where evidence was lacking, they reflect expert opinion. The goals of the new guidelines are to ensure that persons with HIV infection and persons with increased risk receive high quality HIV prevention counseling to reduce their risk of transmitting or acquiring HIV; have early knowledge of their HIV status; and have access to appropriate services. The guidelines also promote early knowledge of HIV status through HIV testing and ensure that all persons recommended or requesting HIV test services receive information about HIV transmission and prevention, as well as HIV test specifics.

- The new guidelines still recommend that HIV testing should be informed, voluntary, and consented and available as confidential and anonymous testing services. In addition, there is continued emphasis on access to testing and provision of test results to clients. Counseling should be "client-centered." However, the new guidelines expand the audience from publicly funded providers to include all providers of HIV testing services.

- They encourage testing to learn HIV serostatus. They expand recommendations on referral methods and services and quality assurance. In addition, because CTR services are offered in a variety of settings, the new guidelines recognize the need for flexibility. A publicly funded, dedicated HIV CTR site in a high-prevalence area, for example, has different needs than a private HMO in a low-prevalence area.

- Practitioners are allowed to tailor the guidelines to better serve their clients. They can use these recommendations to optimize counseling and testing procedures (such as the use of phone counseling or rapid tests to ensure the return of test results); to maximize coverage and participation of HIV CTR services using "risk screening" strategies to target prevention services to persons at increased HIV risk; and to prioritize care and referral services for populations at increased risk dependant on prevalence, risk population, setting, and symptomatology.

Challenges: The expansion of the guidelines to include providers may make implementation more difficult. For example:

- The new guidelines are not standards and are not mandatory. However, the guidelines are science based, and should be considered for use by all providers, depending on where and how HIV CTR services are provided;

- Practitioners and providers will need training and technical assistance to aid in the use of these guidelines so that the new recommendations are as useful as the earlier standards;

- Since the new guidelines offer increased flexibility, evaluation and QA protocols will need to be developed on an individual basis. Programs, and even different sites within a program, may need different evaluation and quality assurance systems.

Prevention Services to Communities of Color

Background: CDC has awarded funds through supplements to cooperative agreements to address prevention needs in communities of color disproportionately affected by the HIV epidemic. Factors considered in these awards decisions are AIDS prevalence, geographical location, target population, and risk behavior. In addition, through the Minority AIDS Initiative (Congressional Black Caucus) and the Secretary's Emergency Fund, CDC has awarded funds to community-based organizations targeting services to communities of color. CDC provided funds for:

- Organizations with a history of providing services to the African-American community to target high-risk populations of women, youth, and men;
- Creation of new community development grants to 20 African-American communities highly impacted by HIV/AIDS;
- Technical assistance provided by national, regional, and local minority organizations to directly funded minority community-based organizations; and
- A faith-based initiative to develop HIV and substance abuse prevention training grants and curriculum at the divinity schools of the historically black colleges and universities.

Accomplishments: Part of the spirit of the minority initiative was to fund as many new minority organizations as possible. Of the 210 awards made to minority CBOs, only 20% were made to organizations previously funded by CDC under program announcement 704. Only 33 organizations received more than one award.

- The review process has been improved. It is now more efficient, comprehensive, and ensured the composition of the reviewers mirrored the national HIV epidemic. New rules were established that would allow CDC to make adjustments to ensure that awards also mirrored the HIV epidemic by race/ethnicity, risk behavior, and geographic impact.
- CDC has also undertaken a program to provide much needed capacity-building assistance. Providing financial assistance to minority CBOs is not enough. Funding needs to be accompanied by a comprehensive process to strengthen their capacity. This process was reorganized from previous efforts to cover the following areas: 1) strengthening organizational infrastructure; 2) enhancing intervention design, development, implementation and evaluation; 3) strengthening community capacity; and 4) strengthening HIV prevention community planning.
- Under the capacity-building program, CDC made 39 awards to 27 minority CBOs. This process ensured a distribution of services by race/ethnicity, risk behavior, and geographic impact. CDC has also hired additional FTEs, provided ongoing training to project officers, lowered the project officer caseload, and is developing evaluation and reporting guidance.
- HIV prevention community planning was strengthened to better incorporate the needs of communities of color.

Challenges: Although the minority initiative was able to reduce the gap in the number of available services to minority communities, a number of critical challenges remain. These include:

- Assisting organizations in increasing their sustainability and capacity, developing evaluation tools, and analyzing data;
- Continuing to identify and transfer effective interventions;
- Assisting the minority CBOs in strengthening their collaboration with health departments and community planning groups; and
- Addressing the needs and improving services to underrepresented populations (such as MSM).

Prevention Services for Men Who Have Sex With Men

Background: Of the total number of AIDS cases, 53% are among men who have sex with men (MSM). From July 1999 to June 2000, 37% of the adult and adolescent AIDS cases reported were among MSM.

Accomplishments:

- For FY 2001, 64% of the health department HIV prevention project areas listed MSM as their primary target population and 83% listed MSM within their top three priorities.
- A qualitative summary of STD/HIV surveillance and behavioral trends is currently being developed to assistant constituents by providing them with the most recent trends in STD and HIV morbidity and risk behaviors among MSM.
- Guidelines for improving HIV/STD programs for MSM by addressing increases in unsafe behaviors among MSM are currently under development for use by CDC grantees and partners providing services to MSM populations.
- A series of three regional trainings will take place later this year to assist constituents in ways through which HIV/STD services for MSM can be improved.
- A satellite video-conference entitled, HIV Prevention Update: Men Who Have Sex with Men, which addressed trends in risk-taking behavior and HIV/AIDs among MSM as well as highlighting effective prevention programs for this population, was broadcast nationwide.
- Over the past two years, CDC has provided funds for HIV prevention for MSM through several program announcements, including: 99091 “Gay Men of Color” (30 CBOs), and 00023 “HIV Prevention Projects for CBOs” (34 of the 84 funded CBOs proposed to target MSM). Altogether, more than $7.5 million was awarded to 37 national, regional and community-based organizations to supplement the pool of existing prevention programs targeting MSM of color.
- Several CDC research studies are currently underway to evaluate the effects of innovative interventions for ethnically diverse groups of young MSM and HIV seropositive MSM. Examples include Community Intervention Trial for Youth (CITY) Project, which is a 13-community study that will evaluate a multi-component HIV prevention intervention for young African-American, Asian/Pacific Islanders, Latino and white MSM who are between 15 and 25 years of age.

Challenges:

- There are indications that gay men are becoming increasingly complacent due to: 1) the apparent success of the HAART regimen; 2) prevention fatigue; 3) changes in mixing patterns; 4) demographic changes, e.g., changes in age; and 5) sexually active persons living with HIV infection;
- More prevention research is needed. In CDC’s Compendium of Prevention Interventions only 5 of the 24 highlighted studies focused on gay men;
- Interventions may not be keeping pace with changing circumstances in MSM communities;
- CBOs serving gay men of color tend to be younger and more in need of infrastructure support.

Building Capacity, Technology, Transfer Efforts, and Sustainability for HIV Prevention

Background: HIV prevention capacity building is a process by which individuals, organizations, and communities develop abilities to enhance and sustain HIV prevention efforts. The goal of capacity building is to foster self-sufficiency and the self-sustaining ability to improve HIV prevention programs, processes, and outcomes. Capacity building involves a variety of delivery mechanisms: 1) technology transfer; 2) technical/capacity-building assistance; 3) training; 4) skills building; and 5) information dissemination.

Accomplishments: CDC's capacity-building efforts are focused in four areas:

- Strengthening organizational infrastructure;
- Enhancing HIV prevention interventions;
- Mobilizing communities for HIV prevention; and
- Strengthening HIV prevention community planning.

CDC's technology transfer efforts are evolving to help build the capacity of grantee organizations and affected communities in enhancing and sustaining their HIV prevention efforts. Examples include:

- Replicating effective programs;
- Compendium of HIV prevention interventions; and
- Characteristics of reputationally strong programs.

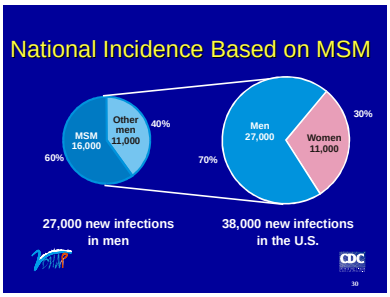
In October 2000, CDC met with staff of the National Institute of Minority Health (NIMH) to examine ways to increase the translation of research-based knowledge into practical behavioral interventions and to increase the effectiveness of community-based organizations in launching science-based prevention programs. This meeting resulted in the following recommendations:

- Research for MSM is outdated for current prevention efforts;
- There is a need to develop a systematic approach to technology transfer and to implement a model for intervention adoption;
- Researchers should be involved with communities beyond the publication of their findings;
- Technical assistance processes should be monitored in a way that can inform the next generation of research; and
- CDC and NIMH should fund proposals requiring equal control of research implementation by researchers and CBOs.

Challenges: Major challenges include:

- Fostering further linkages with NIH in the delivery of science-based HIV prevention interventions by supporting demonstration projects of joint technical assistance in HIV prevention intervention technology;
- Developing technical assistance and training systems to impart tools of cost-effectiveness analysis to local, state, and national-level funding decision makers;
- Expanding technical assistance to state and local health departments and CBOs in the use of HIV incidence, STD, and risk behavior data to make funding allocation decisions; and
- Conducting research designed to determine the best methods for delivering technical assistance to HIV prevention service delivery organizations with a special emphasis on organizations providing services to communities of color.

Estimating HIV Incidence in the United States



Background: The overarching national goal of the new CDC HIV Prevention Strategic Plan is to "reduce the number of new HIV infections per year in the United States from an estimated 40,000 to 20,000 per year by the year 2005." A major new direction of CDC's activities in the next year will be developing ways to measure the number of new infections. CDC will use a national estimate of HIV incidence to measure progress toward the overarching goal of the HIV Prevention Strategic Plan. Knowing the number of infected persons and particularly following the trends will assist policymakers in setting national priorities for AIDS prevention programs and will help justify and allocate resources.

Accomplishments: CDC is currently conducting incidence studies, research, and consultations.

- A major advance in our ability to measure new infections came with the development of the detuned assay. Using the detuned assay, new HIV infection can be determined on a single blood specimen by taking advantage of the fact that in early infection, antibody levels are lower than later in infection. Thus, CDC may be able to estimate national incidence by detuning specimens collected from persons who have been newly diagnosed with HIV in states that have HIV reporting, or in pregnant women, or in persons from whom blood is obtained in NHANES (a nationally representative population-based survey).

- CDC's Divisions of HIV/AIDS Prevention - Intervention Research and Support, and Surveillance and Epidemiology, have funded five health departments to conduct studies of innovative approaches to determining incidence. These health departments are using the detuned assay to test blood from voluntary counseling and testing sites and blinded surveys of MSM, IDU, high-risk heterosexuals and prisoners.

- There is also a need for new tests that may be simpler to perform and more readily available than the Abbott detuned assay. CDC's Division of AIDS, STD and TB Laboratory Research in NCID is working on a new assay that relies on increases in the proportion of total IgG that is HIV specific with time since infection. CDC's Divisions of HIV/AIDS Prevention - Intervention Research and Support, and Surveillance and Epidemiology, are also funding laboratories in Massachusetts and Australia to develop new assays and to adapt the detuned assay for use with oral fluid. This would be very useful for community-based assessments of incidence.

- A technical consultation on estimating incidence was held in February 2001. This consultation was to explore possible methods, and look at the feasibility, cost, and precision of the different methods and their applicability for national and local estimates.

Challenges: Determining the best method to use for estimating incidence is crucial. The precision of the estimate and the ability to follow trends is crucial to using incidence estimates to evaluate prevention programs and should be a key consideration in method selection. Possible methods include:

- The "top-down" approach would develop studies that will obtain a national estimate and then try to derive local estimates. However, a national approach may not sample enough persons or may have too few HIV infections in a given area to produce a local estimate for that area. Risk information may be unavailable if, for example, only pregnant women are tested;

- If we take the "bottom-up" approach and fund health departments to conduct studies aimed at producing local area estimates, such as detuning STD clinic or counseling and testing specimens, we would need to perform complex modeling to make a national estimate. A criticism of this approach is that it only accesses persons who present for HIV or STD testing or drug treatment;

- There are a number of other issues to be considered depending on the approach, including ensuring the ethical conduct of blinded surveys, the feasibility and cost of any new studies, and different needs for community planning and preventive services in different areas which may require the use of non-standardized local protocols;

- All the approaches have biases and problems with not representing all groups for which we would like information.

Evaluation Guidance to State/Local Health Departments and CBOs

Background: The purpose and rationale of the health department evaluation guidance is to report, improve and identify improvement mechanisms. The health department evaluation guidance is designed:

- To provide information needed to report to federal, state and local stakeholders;
- To improve HIV prevention policies;
- To better target resources for those disproportionately affected and infected with HIV; and
- To help improve HIV prevention programs by identifying the most appropriate mechanisms needed, such as funding, evaluation or capacity-building.

During various stages of guideline development, CDC has held a number of face-to-face meetings with evaluation experts and primary stakeholders, such as NASTAD, health departments, and CBOs. In addition, CDC has also conducted pilot testing on the data collection instruments and incorporated revisions. The evaluation guidance package was submitted to OMB for review.

The guiding principle used for the development of the CBO evaluation guidance is based on the need for consistency with the health department evaluation guidance. Because some CBOs are funded directly by health departments, some are funded directly by CDC, and some are funded by both, a similar evaluation guidance was needed so that CBOs were not reporting information under two different systems. The evaluation guidance will provide:

- Impact evaluation: an assessment of the cumulative effect of HIV prevention efforts on HIV transmission at the local and national levels; and
- Impact evaluability assessment: an assessment of the feasibility of conducting impact evaluation, given the current HIV prevention structure and data systems.

Accomplishments:

- In February and March 2000, over 130 persons representing 65 jurisdictions participated in one of five health department evaluation guidance training sessions. CDC established and strengthened collaborative mechanisms to provide and implement technical assistance. Supplemental funding ($100,000) for evaluation was provided to each health department jurisdiction receiving $1 million or more in CDC HIV prevention funding. CDC posted the Health Department Evaluation Guidance on the CDC Web site so it was easily available to constituents;

- Data collection is underway in health departments for FY 2001. Health departments have been quite receptive to implementing an evaluation component to their programs. Many have set up additional training sessions in their jurisdiction with their grantees to begin implementing the guidance;

- Within DHAP, an in-house MS-access-based system called Evaluation Reporting and Analysis System (ERAS) will facilitate processing, validating and reporting of evaluation activity data; and

- The CBO evaluation guidance is in the final stages of development. We anticipate sending it to OMB within the month.

Challenges: In light of all these accomplishments, we face many future challenges:

- Data submission issues highlight the importance of expanding the quality assurance system, so that quality assurance activities are interdependent and integrated into ongoing collection, analysis, interpretation, and dissemination of program evaluation data;
- In preparing to launch the web-based data collection mechanism, issues such as confidentiality and the proper use of data in a careful manner will need to be considered; and
- There will be a need for additional supplemental evaluation training and resources to sustain and expand current health department program evaluation infrastructures.

Synthesizing Behavioral Data to Inform Prevention Planning

Background: In state- and local-level prevention planning, there is a need for behavioral data that monitors behaviors associated with risk of infection, HIV testing, care seeking, and adherence. In 1997, CDC received one-time funding to develop a sexual behavior module to the Behavioral Risk Factor Surveillance System (BRFSS). The results of this information on risk behavior can help identify specific behaviors and population subgroups engaging in those behaviors and locations where interventions are needed. CDC can use ongoing data on risk behavior to evaluate the impact of prevention programs.

Accomplishments: Behavioral surveillance has included sentinel events in disease surveillance, sentinel behaviors in behavioral surveillance and identification of populations in which to apply an integrated model. CDC has estimated risk behaviors among sexually active men and women using the BRFSS. Through the HIV Testing Survey II (HITS-II) and Supplement to HIV/AIDS Surveillance (SHAS) surveys, we have obtained behavioral risk factors and perceptions among HIV-infected heterosexuals, MSM, IVDUs and non-infected heterosexuals. Information is also available on the percent of persons tested within two months of AIDS diagnosis, trends in HIV diagnoses by stage of disease, percentage of respondents who have ever tested for HIV, trends in prescribed use of antiretroviral therapy, and self-reported adherence to highly active antiretroviral therapy (HAART) among HIV-infected persons. This behavioral data can guide secondary prevention efforts by identifying barriers to adherence. This, in turn, helps prevent the emergence of resistant strains and improves health and survival.

Challenges: To better meet the needs of state/local areas, challenges include:

- The capacity at state and local levels to conduct behavioral studies;
- The capacity in state and local planning groups to effectively use behavioral data in epidemiologic profiles;
- Current limited general population surveys to provide high quality awareness and attitude data; and
- Infrastructure needs to be built to facilitate public health-academic collaborations in partnership with communities in order to collect relevant behavioral data for special populations.

HIV Vaccine Research

Background: There have been more than 70 Phase I & II human clinical trials of HIV vaccine in the world, only 11 of which have taken place in developing countries where most of the disease burden can be found. Of those, only one product, the VaxGen AIDS product, has advanced to Phase III trials, and CDC is playing a key role in these trials in the U.S. and Thailand.

Accomplishments: CDC's current activities in HIV vaccine research focus on vaccine trials:

- The VAX004 trial is the VaxGen AIDSVAX B/B efficacy trial taking place primarily in North America. The collaborators are VaxGen, the manufacturer and trial sponsor, 61 local sites around the U.S., and CDC and NIH. The population being tested is 5,109 MSM and 309 high-risk women. The product is a recombinant vaccine (rgp120: B[MN] / B[GNE8]). The schedule calls for doses at 0, 1, and 6 months, followed by booster doses at 12, 18, 24, and 30 months. Its design is two-thirds vaccine and one-third placebo. The duration is three years, with a start date of June 1998, and a full enrollment in October 1999. The first formal look at efficacy will take place in November 2001. The primary outcome of this trial is a simple "HIV infection: yes or no."

- The VAX003 trial is the VaxGen AIDSVAX B/E efficacy trial taking place in Thailand. The collaborators are VaxGen, the manufacturer and trial sponsor, the Bangkok Metropolitan Administration, Mahidol University, and CDC through its collaboration with the Thai Ministry of Public Health. The population being tested is 2,540 injection drug users in Bangkok. The product is a recombinant vaccine (rgp120: B[MN] / E[A244]). The schedule calls for doses at 0, 1, and 6 months, followed by booster doses at 12, 18, 24, and 30 months. Its design is one-half vaccine and one-half placebo. The duration is three years, with a start date of March 1999, and a full enrollment in August 2000. The first formal look at efficacy will take place in early 2002.

- The vaccine trials in the U.S. and Thailand are proceeding well. Completion is estimated for the U.S. in October 2002, and August 2003 for Thailand. CDC's role in the trials will be to interpret and communicate results; determine if the vaccine is effective, for what subtypes, for how long, and for what exposures; consult on implementation strategies and access; and consult on the design of the next generation of vaccines and trials.

- CDC is also supporting HIV vaccine development for West Africa. NCHSTP is working with Emory and NCID in the development of an HIV-1 subtype A/G DNA + MVA vaccine. CDC is assisting in site preparation in Côte d'Ivoire as part of Project RETRO-CI.

Challenges: Future challenges in HIV vaccine development include the development of a strategic plan with the following elements:

- In the development of an HIV vaccine, collaborations must be established (NIH, DOD, IAVI, UNAIDS) to develop appropriate vaccines for use in international sites in West, East, and Southern Africa, and Asia;
- In evaluating an HIV vaccine, CDC must explore other populations in the U.S. for efficacy trials (heterosexual men & women, minorities) and develop new sites for efficacy trials such as Kenya and other sites in Africa;
- Communications with communities about vaccines should be expanded;
- Strategies should be developed and implemented, including: 1) preparing for results from efficacy trials; 2) finding a use for a partially protective HIV vaccine (what risk groups? should it be used in the U.S.? should it be used internationally?); and 3) assuring universal access (UNAIDS); and
- HIV testing will be more complex in the era of HIV vaccine trials, including distinguishing HIV vaccine-induced antibodies from true infection and implications for CTR guidelines.

Key Research Findings

Incidence of Cervical Squamous Intraepithelial Lesions in HIV-Infected Women

Authors: Ellerbrock TV, Chiasson MA, Bush TJ, Sun XW, Sawo D, Brudney K, Wright TC Jr.
Source: *Journal of the American Medical Association*, 2000 February 23;283(8):1031-7.

Women infected with human immunodeficiency virus (HIV) are at increased risk for cervical squamous intraepithelial lesions (SILs), the precursors to invasive cervical cancer. However, little is known about the causes of this association. This research compared the incidence of SILs in HIV-infected versus uninfected women and determined the role of risk factors in the pathogenesis of such lesions. A prospective cohort study was conducted from October 1,1991, to June 30, 1996, in urban clinics for sexually transmitted diseases, HIV infection, and methadone maintenance. A total of 328 HIV-infected and 325 uninfected women with no evidence of SILs by Papanicolaou test or colposcopy at study entry were studied. The outcome measure was to determine incident SILs confirmed by biopsy, compared with HIV status and risk factors. During 30 months of follow-up, 67 (20%) HIV-infected and 16 (5%) uninfected women developed a SIL (incidence of 8.3 and 1.8 cases per 100 person-years in sociodemographically similar infected and uninfected women. Of incident SILs, 91% were low grade in HIV-infected women versus 75% in uninfected women. No invasive cervical cancers were identified. The results indicated significant risk factors for incident SILs were HIV infection, transient human papillomavirus (HPV) DNA detection, persistent HPV DNA types other than 16 or 18, persistent HPV DNA types 16 and 18, and younger age (<37.5 years). In this study, 1 in 5 HIV-infected women with no evidence of cervical disease developed biopsy-confirmed SILs within 3 years, highlighting the importance of cervical cancer screening programs in this population.

Drug Safety During Pregnancy and in Infants: Lack of Mortality Related to Mitochondrial Dysfunction Among Perinatally HIV-Exposed Children in Pediatric HIV Surveillance

Authors: Lindegren ML, Rhodes P, Gordon L, Fleming P, State and Local Health Department HIV/AIDS Surveillance Programs, and the Perinatal Safety Review Working Group
Source: *Annals of the New York Academy of Sciences*, November 2000, Volume 918, Prevention and Treatment of HIV Infection in Infants and Children.

The objectives of this study were to assess whether any deaths reported among perinatally exposed, uninfected, or indeterminate children were consistent with mitochondrial dysfunction, and to characterize perinatal exposure to antiretrovirals among children born in the last five years and reported to perinatal HIV surveillance. Population-based HIV/AIDS surveillance data was used for perinatally exposed children born in 1993 through 1998 from 32 states with HIV reporting and from a special HIV surveillance project in Los Angeles County and in 22 hospitals in New York City. The classifications of exposure and deaths were consistent with the investigation of deaths across all U.S. cohorts. Deaths were ascertained from recent matches with death registries in each state. Causes of death were ascertained from death certificates, autopsy records when available, and medical records. None of the 98 deaths (1.1%) among 9067 perinatally exposed uninfected or indeterminate children born from 1993 through 1998 and reported through pediatric HIV surveillance died of conditions that were consistent with mitochondrial dysfunction. This included 679 children exposed to zidovudine (ZDV) and 3TC, 277 exposed to other antiretroviral combinations, 4512 exposed to ZDV alone, 927 with no antiretroviral exposure, and 2672 with unknown exposure—1128 of whom were born before March 1994 and were unlikely to have been exposed to ZDV. No deaths attributable to mitochondrial dysfunctions were found through this evaluation of population-based HIV surveillance data. Long-term follow-up of antiretroviral-exposed children has been recommended by the Public Health Service. This evaluation highlights the contribution of population-based surveillance to the evaluation of potential toxicities associated with maternal antiretroviral use.

Nucleoside Exposure in the Children of HIV-Infected Women Receiving Antiretroviral Drugs: Absence of Clear Evidence of Mitochondrial Disease in Children Who Died Before 5 Years of Age in Five United States Cohorts

Authors: The Perinatal Safety Review Working Group
Source: *Journal of Acquired Immune Deficiency Syndromes*, 25:261-268.

Nucleoside reverse transcriptase inhibitors (NRTIs) have been associated with mitochondrial toxicity in individuals receiving treatment. A report of two deaths in Europe attributed to mitochondrial dysfunction in HIV-uninfected infants with perinatal NRTI exposure prompted a review of five U.S. cohorts. Deaths in HIV-exposed children <60 months of age and HIV-uninfected or indeterminate were reviewed. Review included birth history; perinatal antiretroviral drug exposure; hospital, laboratory, and clinic records; death reports; autopsy results; and local physician queries. Deaths were classified as unrelated, unlikely related, possibly related, or highly suggestive or proven relationship to NRTIs. Sudden infant death syndrome (SIDS) was categorized separately. Among over 20,000 children of HIV-infected women, over half of whom had been exposed to NRTIs, 223 died. In HIV-uninfected children, 26 deaths were attributed as unrelated to mitochondrial dysfunction and 4 were attributed to SIDS. In HIV-indeterminate children, 141 were unrelated to NRTIs, 10 were unlikely related, 3 were possibly related and 0 were highly suggestive or proven relationship with NRTIs; 33 were due to SIDS and 6 could not be classified. There was no indication that antiretroviral exposure was associated with unlikely related or possibly related deaths, or deaths from SIDS. A search for mitochondrial dysfunction among living children in these cohorts is ongoing.

Prevalence of Mutations Associated with Reduced Antiretroviral Drug Susceptibility Among Human Immunodeficiency Virus Type 1 Seroconverters in the United States, 1993-1998

Authors: Weinstock H, Respess R, Heneine W, Petropoulos CJ, Hellmann NS, Luo CC, Pau CP, Woods T, Gwinn M, Kaplan J
Source: *Journal of Infectious Diseases*, 2000 July; 182(1):330-3.

To assess the prevalence of mutations associated with decreased antiretroviral drug susceptibility, specimens were tested from persons infected with human immunodeficiency virus (HIV) during 1993-1998. Subjects were drug naive and were attending sexually transmitted disease clinics in six U.S. cities. All were enrolled consecutively and had tested negative for HIV during the 2 years before enrollment. Plasma specimens from patients having >/=1 reverse transcriptase (RT) or primary protease mutation were tested phenotypically with a recombinant virus assay. Of 99 patients, 6 (6%) had mutations associated with zidovudine resistance, 2 (2%) had mutations associated with nonnucleoside RT inhibitor resistance, and 1 (1%) had a primary protease mutation. Overall, the prevalence of resistance-associated primary mutations was 5%, although high levels of decreased drug susceptibility (IC(50)s >/=10 times that of a reference virus) were observed in just 1%. These findings confirm the transmission of these mutations to drug-naive persons.

HIV Prevalence and Associated Risks in Young Men Who Have Sex With Men

Authors: Valleroy LA, MacKellar DA, Karon JM, Rosen DH, McFarland W, Shehan DA, Stoyanoff SR, LaLota M, Celentano DD, Koblin BA, Thiede H, Katz MH, Torian LV, Janssen RS
Source: *Journal of the American Medical Association*, 2000 July 12; 284(2)198-204.

Studies conducted in the late 1980s on human immunodeficiency virus (HIV) infection among older men who have sex with men (MSM) suggested the epidemic had peaked; however, more recent studies in younger MSM have suggested continued high HIV incidence. The objective of this study was to investigate the

current state of the HIV epidemic among adolescent and young adult MSM in the United States by assessing the prevalence of HIV infection and associated risks in this population in metropolitan areas. For this research, information was obtained from the Young Men's Survey, which is a cross-sectional, multisite, venue-based survey conducted from 1994 through 1998, including 194 public venues frequented by young MSM in Baltimore, Dallas, Los Angeles, Miami, New York City, the San Francisco Bay Area and Seattle. A total of 3492 15- to 22-year-old MSM who consented to an interview and HIV testing participated. The purpose was to determine the prevalence of HIV infection and associated characteristics and risk behaviors. The results of the study indicated prevalence of HIV infection was high (overall, 7.2%; range for the 7 areas, 2.2%-12. 1%) and increased with age, from 0% among 15-year-olds to 9.7% among 22-year-olds. Multivariate-adjusted HIV infection prevalence was higher among blacks, young men of mixed or other race, and Hispanics compared with whites (referent) and Asian Americans and Pacific Islanders. Factors most strongly associated with HIV infection were being black, mixed, or other race; having ever had anal sex with a man; or having had sex with 20 or more men. Only 46 (18%) of the 249 HIV-positive men knew they were infected before this testing; 37 (15%) were receiving medical care for HIV, and 19 (8%) were receiving medical drug therapy for HIV. Prevalence of unprotected anal sex during the past 6 months was high (overall, 41%; range, 33%-49%). Among these young MSM, HIV prevalence was high, underscoring the need to evaluate and intensify prevention efforts for young MSM, particularly blacks, men of mixed race or ethnicity, Hispanics, and adolescents.

HIV Testing Among the General U.S. Population and Persons at Increased Risk: Information from National Surveys, 1987-1996

Authors: Anderson JE, Carey JW, Taveras S
Source: *American Journal of Public Health*, 2000 July; 90(7):1089-95.

Data from national surveys was used to measure the rate of HIV testing in the general U.S. population and among persons at increased behavioral risk for HIV. Three nationally representative surveys were used: the National Health Interview Survey for 1987 through 1995, the 1995 National Survey of Family Growth, and the 1996 National Household Survey on Drug Abuse. These surveys asked about HIV testing experience and behavioral risks for HIV. Rates of testing were computed for all persons, including those at increased risk for HIV. The results indicated that from 1987 to 1995, the percentage of adults ever tested increased from 16% to 40%. The three surveys were consistent with one another, and all showed much higher rates of testing for persons at increased risk for HIV.

Increasing Condom Use Among Adolescents Through Coalition-Based Social Marketing

Authors: Kennedy MG, Mizuno Y, Seals BF, Myllyluoma J, Weeks-Norton K
Source: *AIDS* 2000, 14:1809-1818

This study evaluated a multimodal social marketing intervention to reduce the sexual transmission of HIV infection among adolescents in Sacramento, California. Five rounds of a cross-sectional random sample telephone survey were conducted from December 1996 to October 1998. The total number of respondents was 1,402. A statistically significant, increasing trend in exposure to the intervention was detected. The number of channels through which an adolescent had been exposed to the intervention was associated with condom use at last sex with main partner and with psychosocial determinants of this behavior. After statistical adjustments for sex, age, and race/ethnicity to make the survey rounds comparable, the proportion of adolescents who had used a condom at last sexual exposure increased 4.3 percentage points over the 1 year intervention period. These results indicate social marketing can be combined with behavioral science to reduce the risk of HIV infection and other sexually transmitted diseases (STDs) among adolescents in a large geographical area.

Replicating Effective Programs: HIV/AIDS Prevention Technology Transfer

Authors: Neumann MS and Sogolow ED
Source: *AIDS Education and Prevention* 12, (Suppl. A): 35-48.

This research focused on the methods used by CDC scientists and original intervention researchers in CDC's Replicating Effective Programs (REP) project to (a) translate some HIV prevention behavioral intervention research into materials with enough detail and clarify that state and community partners can select and implement effective interventions and (b) transfer and support these technologies so that they can be implemented successfully. The experience of the REP project indicates that technology transfer is complex. Interventions need to be adapted to local circumstances. Prevention partners need written materials, training, and technical assistance. Researchers need to collaborate with prevention program providers to develop interventions that are feasible for prevention partners to conduct.

Evaluating National HIV Prevention Indicators: A Case Study in San Francisco

Authors: Page-Shafer K, Kim A, Norton P, Rugg D, Heitgerd J, Katz MH, McFarland W, and the HIV Prevention Indicators Field Collaborative
Source: *AIDS*. 14(13):2015-2026, September 8, 2000.

This research was to field-test the availability, interpretability, and programmatic usefulness of 37 proposed national HIV prevention indicators (HPI) intended to evaluate community-level impact of HIV prevention efforts in San Francisco. HPI were defined for four populations (high risk heterosexuals, injecting drug users, men who have sex with men, and childbearing women) and for four domains (biological, behavioral, service, and sociopolitical). HPI were obtained from existing data sources only. Trends in HPI were examined from 1990 to 1997. Existing data provided 29 (78%) of the 37 proposed HPI; eight HPI were not available because California does not have HIV case reporting. Interpretation was limited for several HPI due to small sample size, inconsistencies in data collection, or lack of contextual information. Data providing behavioral HPI were scarce. HPI were consistent with historical patterns of HIV transmission in San Francisco but also highlighted new and worrisome trends. Notably, HPI identified recent increases in risk for HIV transmission among men who have sex with men. Despite limitations, the proposed national HPI provided evidence of the aggregate effectiveness of prevention efforts in San Francisco.

Syringe Laws and Pharmacy Regulations are Structural Constraints on HIV Prevention in the U.S.

Authors: Taussig JA, Weinstein B, Burris S, Jones TS
Source: *AIDS* 2000, 14(suppl 1): S47-S51.

This research reviewed the legal and regulatory barriers that restrict pharmacy sales of syringes to injection drug users (IDUs). IDUs' access to sterile syringes from community pharmacies in the U.S. is limited by state laws and regulations governing syringe sales. Restricted availability of sterile syringes from pharmacies is a structural barrier that greatly impedes HIV prevention for IDUs, who often share and reuse syringes because they cannot obtain and possess sterile syringes. These high-risk behaviors contribute to the transmission of HIV and other blood-borne pathogens among IDUs, their sexual partners, and their children. In Connecticut, because of high HIV prevalence among IDUs, restrictive syringe laws were changed. After the legal changes in Connecticut, both pharmacy sales of syringes in areas of high drug use and purchases of syringes in pharmacies (reported by IDUs) increased, while syringe sharing (reported by IDUs) decreased. Maine and Minnesota have made similar changes in laws. Based on this research, increasing access to sterile syringes through pharmacies requires the repeal or modification of legal barriers. Pharmacy sale of syringes to IDUs is an inexpensive HIV prevention intervention with the potential to substantially reduce HIV transmission.

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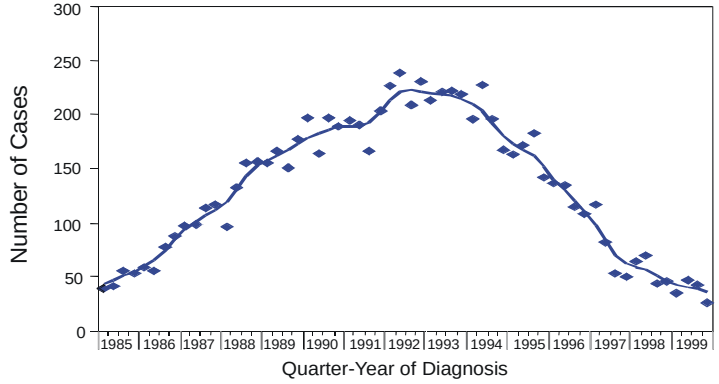
Perinatally Acquired AIDS Cases* by Quarter-Year of Diagnosis, 1985-1999, United States



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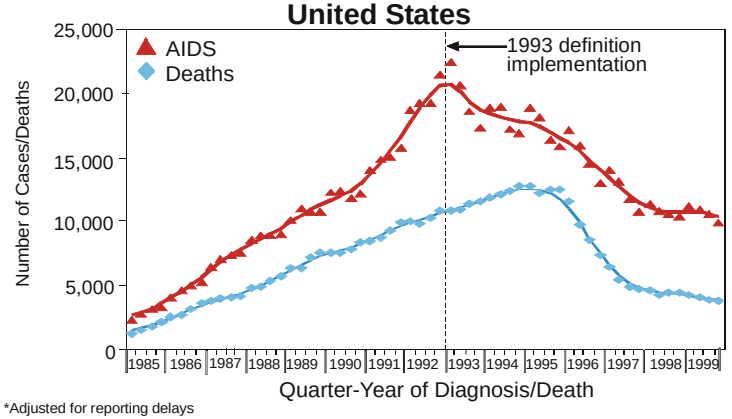

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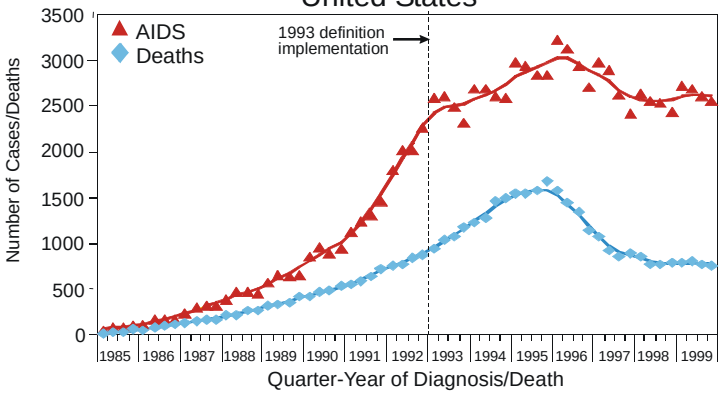

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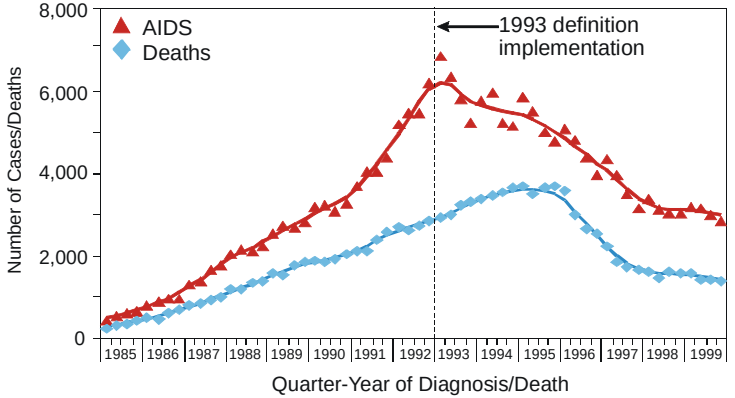

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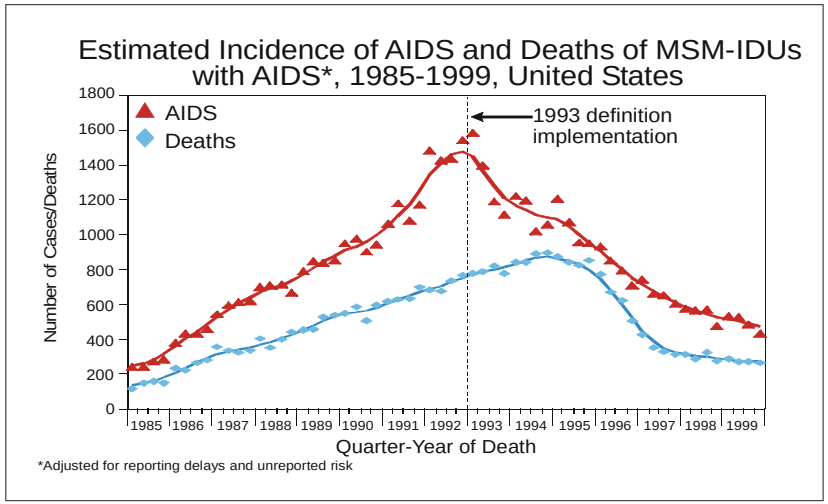
Estimated Incidence of AIDS and Deaths of MSM-IDUs with AIDS*, 1985-1999, United States
AIDS
Deaths
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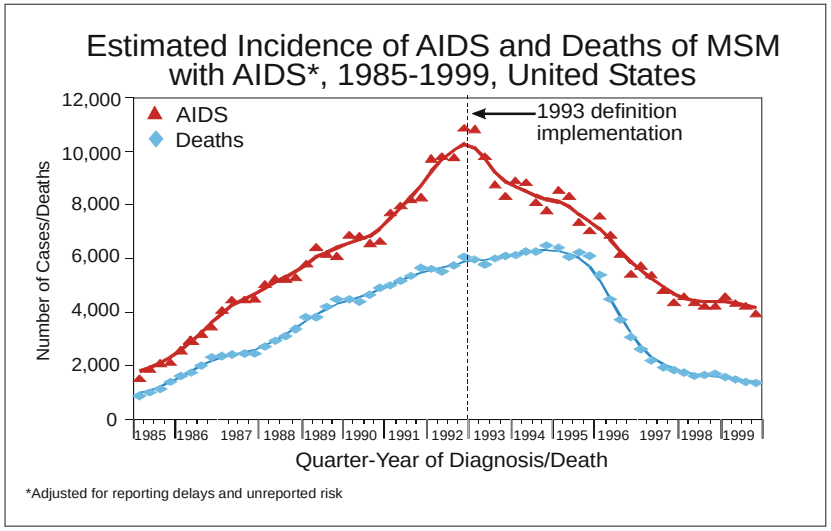
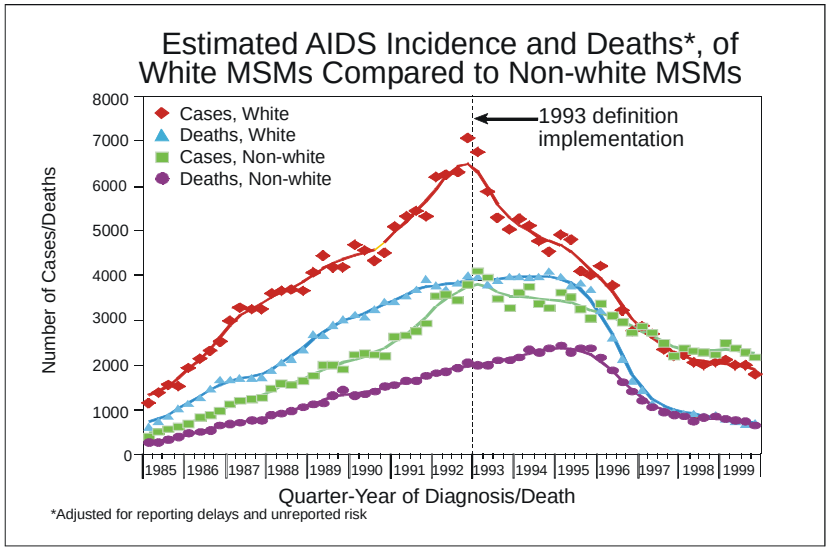
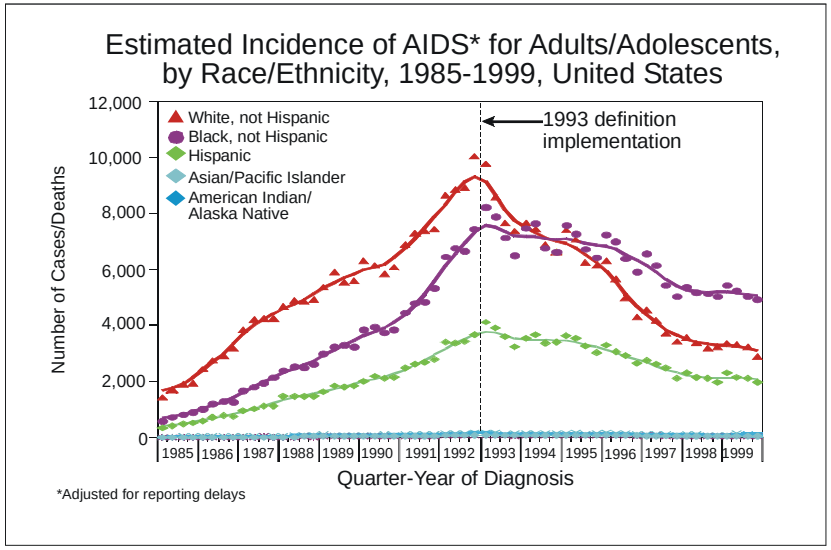
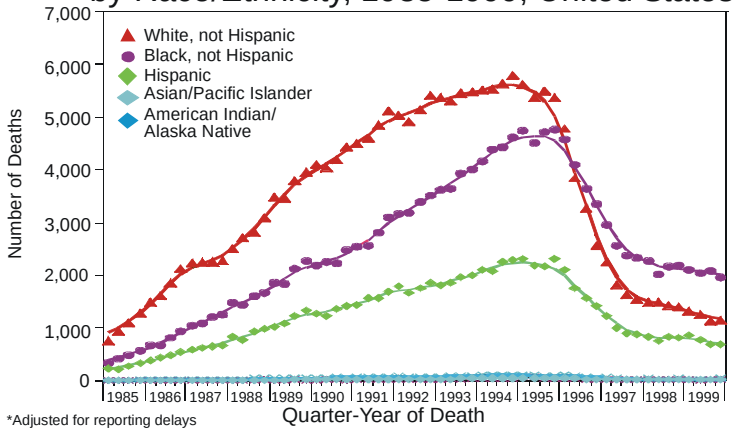
Number of Cases/Deaths
Quarter-Year of Death
*Adjusted for reporting delays and unreported risk


Estimated Incidence of AIDS and Deaths of MSM with AIDS*, 1985-1999, United States
AIDS
Deaths
1993 definition implementation
Number of Cases/Deaths
Quarter-Year of Diagnosis/Death
*Adjusted for reporting delays and unreported risk


Estimated AIDS Incidence and Deaths*, of White MSMs Compared to Non-white MSMs
Cases, White
Deaths, White
Cases, Non-white
Deaths, Non-white
1993 definition implementation
Number of Cases/Deaths
Quarter-Year of Diagnosis/Death
*Adjusted for reporting delays and unreported risk

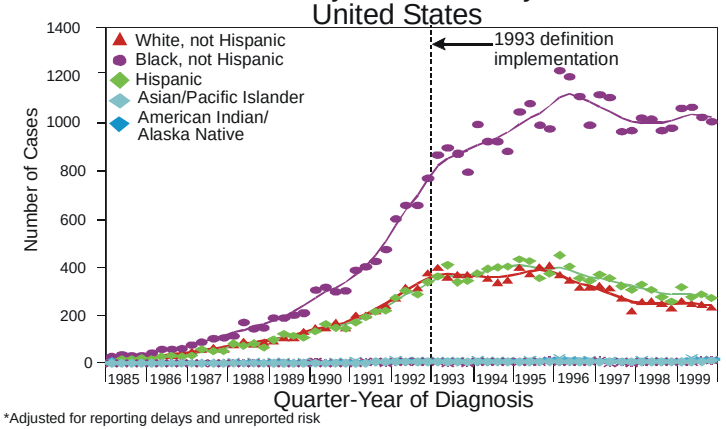

Estimated Incidence of AIDS* for Adults/Adolescents, by Race/Ethnicity, 1985-1999, United States
White, not Hispanic
Black, not Hispanic
Hispanic
Asian/Pacific Islander
American Indian/ Alaska Native
1993 definition implementation
Number of Cases/Deaths
Quarter-Year of Diagnosis
*Adjusted for reporting delays

Estimated AIDS Deaths*, of Adults/Adolescents, by Race/Ethnicity, 1985-1999, United States



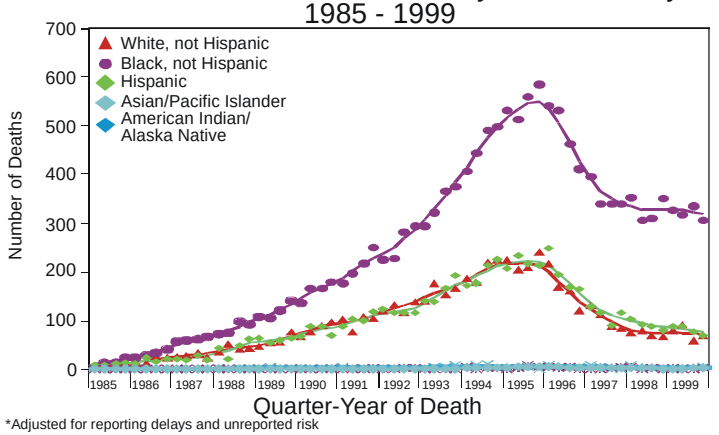
*Adjusted for reporting delays

Estimated AIDS Incidence Among Women for Heterosexual Contact Cases*, by Race/Ethnicity,1985-1999, United States



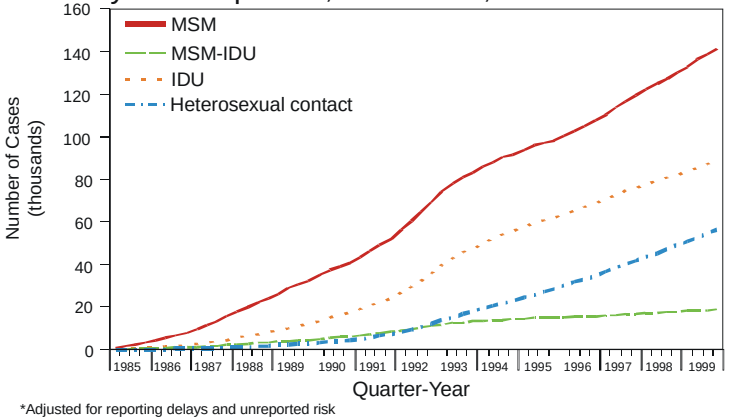
*Adjusted for reporting delays and unreported risk

Estimated Deaths among Women with AIDS for Heterosexual-Contact Cases*, by Race/Ethnicity, 1985 - 1999

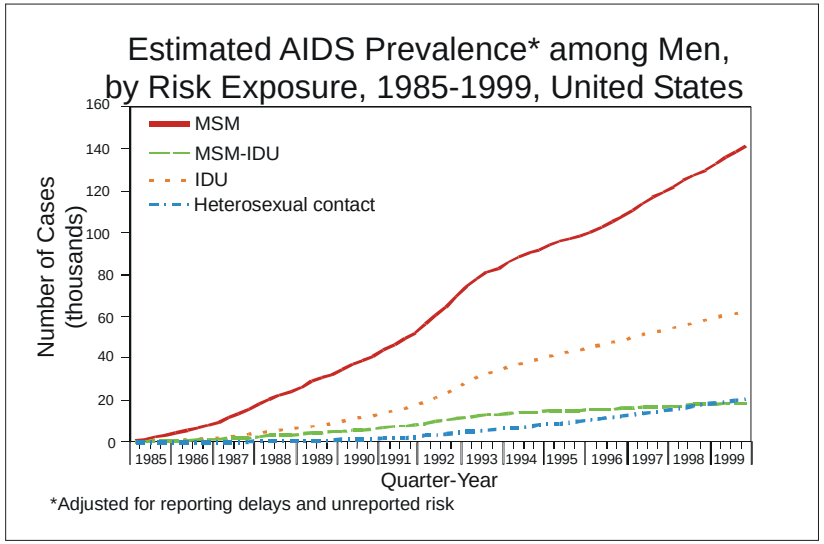


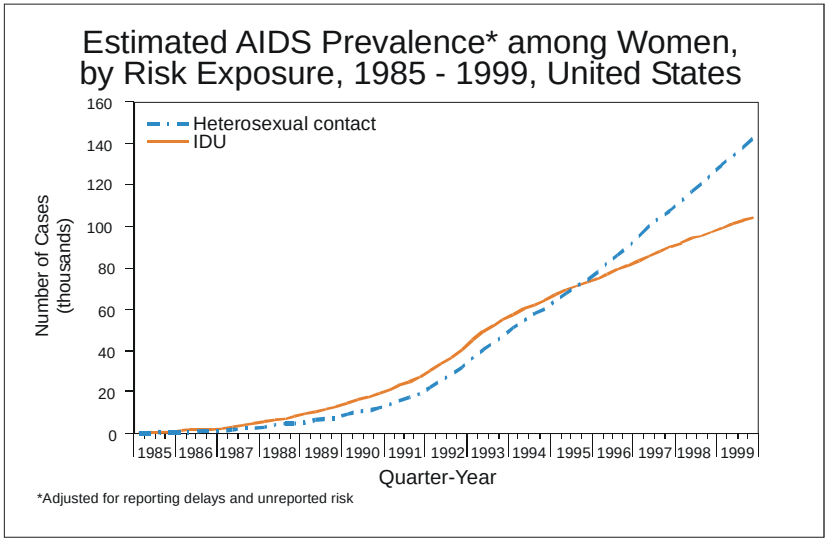
*Adjusted for reporting delays and unreported risk

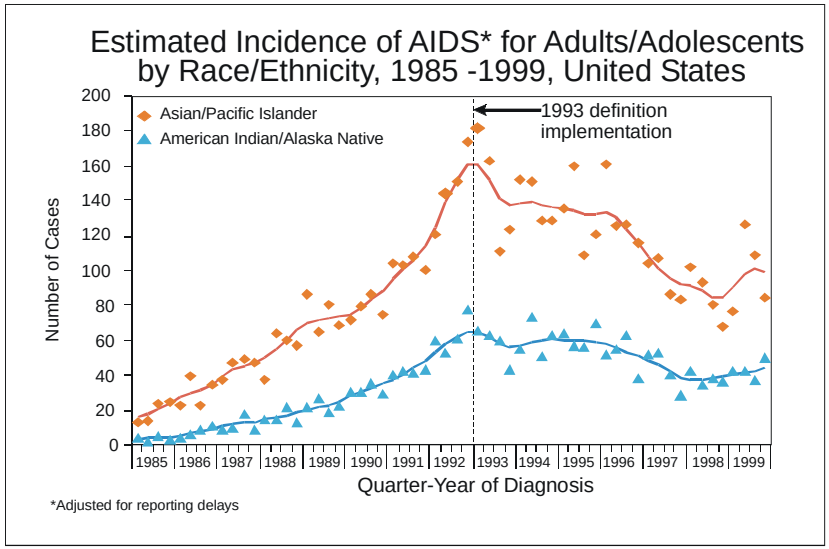
Estimated AIDS Prevalence* among Adults/Adolescents by Risk Exposure, 1985-1999, United States



*Adjusted for reporting delays and unreported risk


Estimated AIDS Prevalence* among Men,
by Risk Exposure, 1985-1999, United States
MSM
MSM-IDU
IDU
Heterosexual contact
Number of Cases
(thousands)
0
20
40
60
80
100
120
140
160
1985
1986
1987
1988
1989
1990
1991
1992
1993
1994
1995
1996
1997
1998
1999
Quarter-Year
*Adjusted for reporting delays and unreported risk


Estimated AIDS Prevalence* among Women,
by Risk Exposure, 1985 - 1999, United States
Heterosexual contact
IDU
Number of Cases
(thousands)
0
20
40
60
80
100
120
140
160
1985
1986
1987
1988
1989
1990
1991
1992
1993
1994
1995
1996
1997
1998
1999
Quarter-Year
*Adjusted for reporting delays and unreported risk


Estimated Incidence of AIDS* for Adults/Adolescents
by Race/Ethnicity, 1985 -1999, United States
Asian/Pacific Islander
American Indian/Alaska Native
1993 definition
implementation
Number of Cases
0
20
40
60
80
100
120
140
160
180
200
1985
1986
1987
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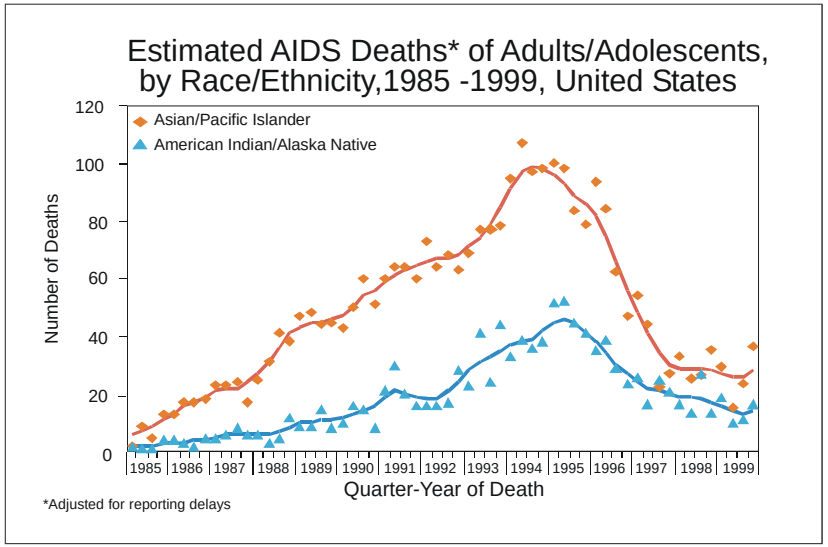
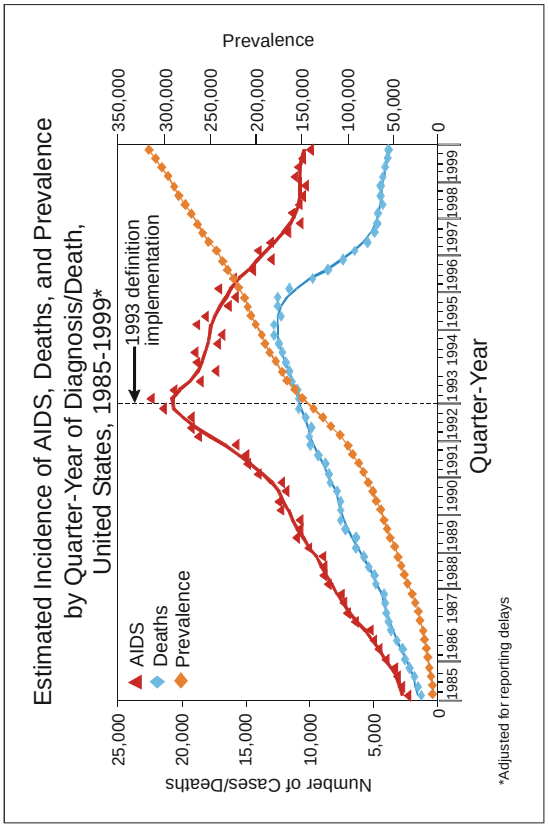
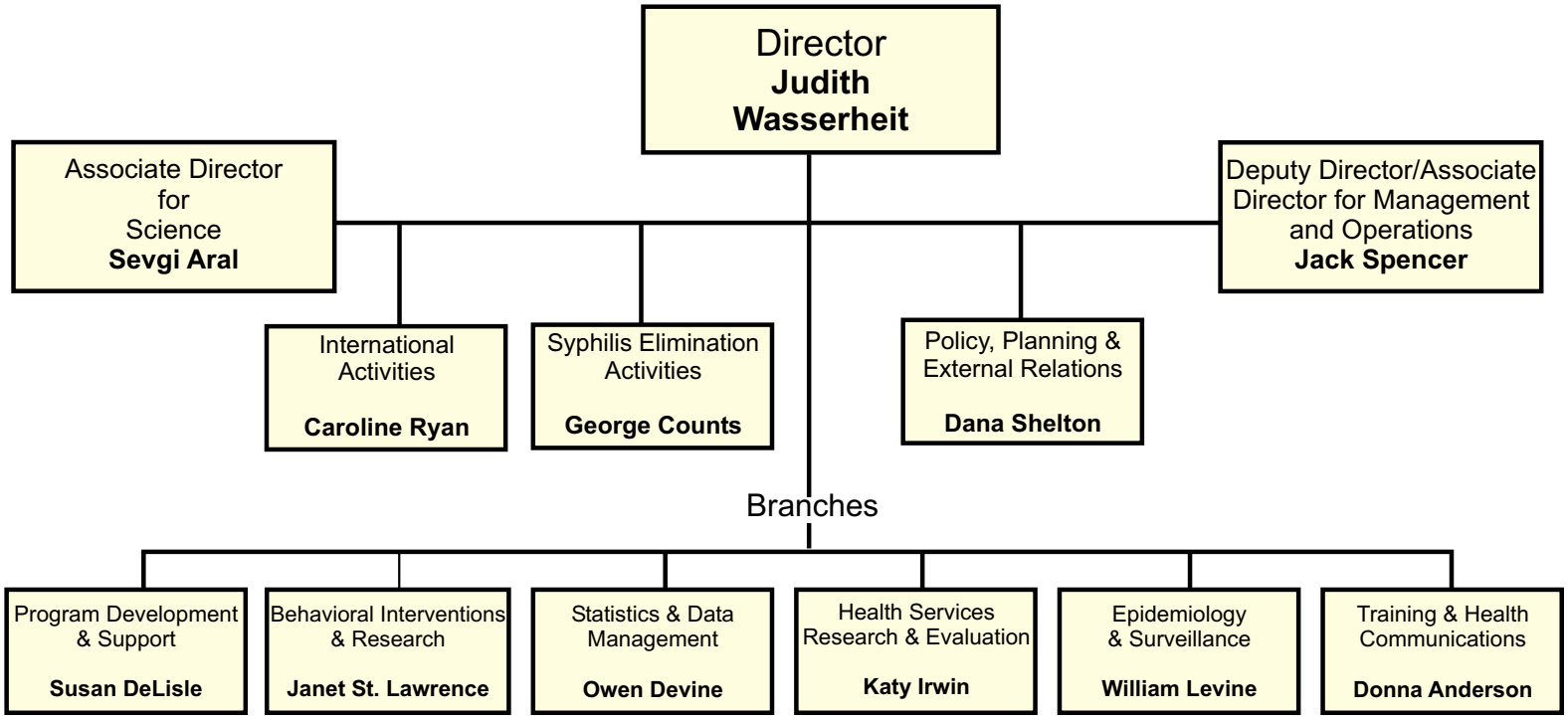
1991
1992
1993
1994
1995
1996
1997
1998
1999
Quarter-Year of Diagnosis
*Adjusted for reporting delays


Estimated AIDS Deaths* of Adults/Adolescents,
by Race/Ethnicity,1985 -1999, United States
Asian/Pacific Islander
American Indian/Alaska Native
Number of Deaths
0
20
40
60
80
100
120
1985
1986
1987
1988
1989
1990
1991
1992
1993
1994
1995
1996
1997
1998
1999
Quarter-Year of Death
*Adjusted for reporting delays


Estimated Incidence of AIDS, Deaths, and Prevalence
by Quarter-Year of Diagnosis/Death,
United States, 1985-1999*
Prevalence
350,000
300,000
250,000
200,000
150,000
100,000
50,000
0
1993 definition
implementation
AIDS
Deaths
Prevalence
25,000
20,000
15,000
10,000
5,000
0
Number of Cases/Deaths
1985 1986 1987 1988 1989 1990 1991 1992 1993 1994 1995 1996 1997 1998 1999
Quarter-Year
*Adjusted for reporting delays

Division of STD Prevention

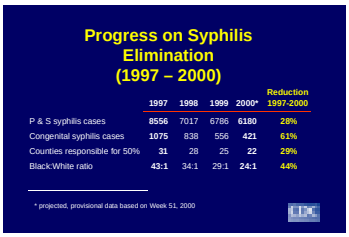


Syphilis Elimination

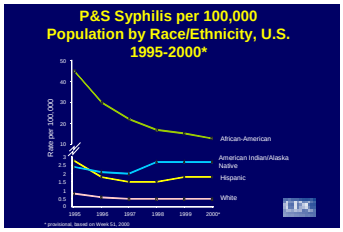
Background: The persistence of high rates of syphilis, a disease that is easily diagnosed and treated, is a sentinel event indicating a breakdown in the most basic public health capacity to control infectious diseases and ensure reproductive health. The syphilis elimination initiative will help rebuild this capacity by identifying this breakdown, rebuilding trust in the public health system, and forging community partnerships to help design and implement local strategies.

Syphilis elimination offers us a chance to: 1) reduce one of the most glaring racial disparities in public health; 2) help prevent HIV transmission; 3) improve infant health; 4) save almost $1 billion annually in health care costs associated with treatment of syphilis and HIV; and 5) enhance collaborations at the federal and local levels.

Accomplishments: From 1997-2000, there has been a 28% reduction in the number of primary and secondary (P&S) syphilis cases, with a 9% annual decrease seen in 2000. There has also been a 61% reduction in congenital syphilis cases, and a 44% drop in the black-white ratio.



Three demonstration sites were set up to field test the syphilis elimination program. Each site is projecting a 20%-30% decrease in cases of P&S syphilis from 1999 to 2000, compared to a 9% decline nationally.



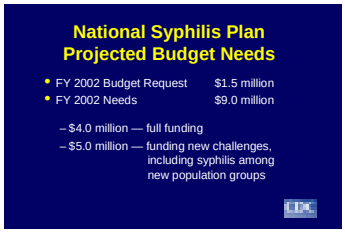
- The Davidson County demonstration site in Nashville, Tennessee, has embraced a broad approach, involving five working groups comprised of schools, the faith community, health care and social service agencies, and corrections. Their efforts have resulted in a 22% decrease in P&S syphilis from 1999 to 2000.

- The Wake County demonstration site in Raleigh, North Carolina, has a heavy emphasis on forging collaborations with corrections and community-wide education. Wake County has achieved a 31% decrease in P&S syphilis from 1999 to 2000.

- The Marion County demonstration site in Indianapolis, Indiana, involves a multi-agency coalition that has developed a comprehensive media and outreach campaign. In 1999 and 2000, Marion County led the nation in cases of P&S syphilis, but in the past year has achieved a 23% decrease in cases.

Syphilis elimination is not solely a CDC effort. It involves other federal agencies, such as NIJ, NIH, SAMSHA, and HRSA. One such model of interagency collaboration is the HRSA Community Health Outreach Education Services (CHORES) Project. CHORES is a multi-agency effort that links community action agencies and community health clinics with health departments; integrates health promotion, education, and disease prevention into primary care; and has five sites located in areas of high syphilis morbidity. In addition, they have developed a HRSA-wide syphilis elimination implementation plan, featuring enhanced testing and treating in all supported sites.

Challenges: Challenges in achieving syphilis elimination include:



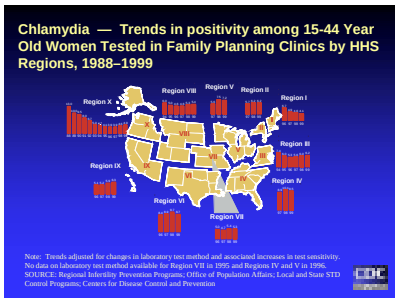
- New mini outbreaks of syphilis among MSM in several cities (Seattle, Los Angeles, San Francisco) potentially jeopardize advances toward elimination made in these areas; and

- Rates of syphilis have gradually risen among Hispanics/Latinos, while falling among African Americans, and remaining level among whites. Surveillance efforts and collaborations with Hispanic/Latino agencies and organizations must be increased.

Infertility Prevention

Background: Prior to the mid-1980s, STD control activities focused primarily on men with syphilis, and gonorrhea. An increased focus on chlamydia prevention occurred in the late 1980s due to a convergence of the following:

- Increased recognition of chlamydia as a widespread problem with significant female reproductive and infant morbidity;
- Availability of inexpensive chlamydia tests and effective treatment;
- Increased understanding of the need for widespread screening due to the asymptomatic nature of chlamydia (75% of women and 50% of men infected with chlamydia are asymptomatic).



Accomplishments: There have been significant accomplishments in program, policy, and research.

- Program has expanded to screen and treat approximately 50% of young women in 20 states and 20% in 30 states.
- A quality prevalence monitoring system has been established with more than 1,600 family planning clinics. Other sites are also submitting data including Job Corps, juvenile detention centers, prenatal sites and the Indian Health Service.
- The chlamydia screening measure made it to the full reporting set for HEDIS 2000. The measure is the percentage of enrolled sexually active women ages 15-25 years who are tested for chlamydia once a year.
- Research studies have been initiated to better characterize determinants of chlamydia transmission and to assess male screening as a strategy to reduce disease in women.

Challenges: There are still many challenges and issues facing STD-related infertility prevention:

- Disease trends, including: 1) continuing high burden of chlamydial infections; 2) increases in gonorrhea for the last two years; and 3) lack of morbidity and prevalence data in MCOs;
- Limited expansion of screening to women in family planning programs in the most populous states due to minimal funding increases. The availability of screening programs for men is virtually nonexistent;
- High cost of the most sensitive and specific laboratory tests for chlamydia and gonorrhea. Acquiring reimbursement for screening activities is difficult for most public health programs and laboratories;
- Emergence of decreased susceptibility of chlamydia and gonorrhea to Azithromycin; and
- Gonorrhea screening guidelines are needed to better target scarce resources.

Genital HPV Infection

Background: Genital HPV is probably the most common STD in the U.S. Approximately 20 million people are infected, with 5.5 million new infections occurring each year. Of persons ages 15-49 years, 15% are currently infected. Overall, 50%-75% of sexually active men and women acquire genital HPV infection at some point in their lives. There is no cure and no vaccine, although vaccine development is promising. New tests are available to detect “high-risk” types of HPV (related to cervical cancer) in women.

Accomplishments: Despite limited resources, CDC has made significant progress:

- In 1999, CDC convened an external consultants’ meeting to prioritize prevention activities and research needs. This meeting produced *Prevention of Genital HPV Infection and Sequelae: Report of an External Consultants’ Meeting*, a comprehensive 40-page report on prevention and research priorities.

- In 2000, CDC completed a large pilot HPV serosurvey in collaboration with NCID’s Division of Viral and Rickettsial Diseases. This survey using sera from NHANES-III, showed that 18% of women and 8% of men in the U.S. have HPV-16 antibody. Black women ages 20-29 years have the highest seroprevalence (36%).

- CDC is finalizing plans to add HPV testing into the new NHANES .

Challenges: Challenges include:

- Gaps in scientific knowledge, including: 1) significance of a positive HPV test; 2) risk factors for HPV persistence, which is a key determinant of progression of HPV infection to cervical cancer; 3) effectiveness of condoms; and 4) lack of available and effective therapy; and

- Widespread misinformation about all aspects of HPV and its consequences (including transmission, diagnosis, treatment, and prevention) among health care providers as well as patients and the general public.

STD Prevention for Adolescents

Background: The burden of sexually transmitted disease falls heavily on our nation's young people. Rates of the most common STDs are disproportionately high among adolescents. These high rates are due to a combination of biological and behavioral risk factors that peak during adolescence, as well as the challenges faced in providing STD prevention for adolescents. Our increased understanding of these risks and challenges places us in a unique position to move forward with new prevention efforts.

Rates of most common STDs are disproportionately high among adolescents.

- Highest rates of chlamydia and gonorrhea among youngest women
- Proportions of 15-19 year olds infected extremely high
  - Chlamydia Prevalence Monitoring Project: 6.36% (range 3.05-18.52)
  - National surveillance data: 2.5% of all females, 8% of African-American females

Accomplishments: Prevention for adolescents has been the focus of a number of ongoing research projects within the division. DSTDP has worked toward improved disease monitoring among adolescents, more effective behavioral interventions, integration of STD, HIV and teen pregnancy prevention, and improved programs and services. In addition, a national expert panel on adolescents and STD prevention was convened in September 2000, to expand the existing knowledge base and to assist in defining future directions.

We are moving forward in a number of ways, including:

- Collaborations with other CIOs to augment school-based STD education;
- The initiation of a multi-level intervention trial, guided by a workgroup with representatives from DSTDP, DHAP-SE, DHAP-IRS, DASH, and DRH. This multi-level approach will include efforts to (1) improve systems like schools and medical institutions to better serve adolescents; (2) increase parent involvement in STD prevention by improving family communication regarding sexual issues, increasing parental monitoring and family cohesion, and increasing parental awareness of the health care needs of their adolescents; and (3) facilitate community involvement and mobilization of resources for STD prevention efforts; and
- Collaboration with NIH and other federal agencies to evaluate the effectiveness of prevention and control strategies.

Challenges: Challenges include:

- Identifying and removing the social, financial and political barriers to successful STD prevention among adolescents;
- Identifying and removing impediments to accessing health care and STD prevention services by adolescents;
- Utilization of existing services must be improved; and
- Ambivalence concerning appropriate information for adolescents regarding STD prevention leads to confusing and conflicting messages.

Performance Measurement for STD Prevention Programs

Background: A common system of measurement holds great potential for STD prevention. CDC's goal is to develop common measures for all 65 project areas that would require annual reporting. This will provide a strategic "snapshot" of how the projects are doing and where STD prevention is going. This system will facilitate quality improvement, permit systematic assessment of the STD program, and provide feedback to management and policymakers.

Accomplishments: Development of an STD measurement system is currently underway:

- There is an ongoing collaborative effort between CDC and the National Coalition of STD Directors (NCSD; representatives from NC, CA, NE, IL, Los Angeles, CT, DE), involving conference calls every 2 weeks and meetings in Atlanta;
- A logic model has been developed that serves as the foundation for the development of the measurement system;
- Pilot projects are being developed to evaluate and refine candidate measures and determine the burden associated with the collection of data requested;
- The system will be phased in, beginning with the Program Announcement for FY 2003;
- Both "common" and "project specific" measures will be included;
- The system will track performance over time and assist with identifying needs for technical assistance.

Challenges: There are concerns in the field related to performance measurement. This will be addressed by:

- Implementing pilot projects, which are being initiated in 2001 to evaluate and refine candidate measures;
- Maintaining the involvement of the National Coalition of STD Directors in assessing appropriateness, utility, and feasibility of candidate measures, and in the decisions about which measures to include in future Program Announcements; and
- Developing and providing training and software support. Although there will be no punitive actions based on "measures," there will be accountability for "plans" and "actions," rather than results. Comparisons will be with "baselines" not with performance of other project areas.

Key Research Findings

The Internet as a Newly Emerging Risk Environment for Sexually Transmitted Diseases

A recent publication by DSTDP staff [(1)] compared risk of STD transmission for persons who seek sex partners on the Internet with risk for persons not seeking sex partners on the Internet and found people who seek sex using the Internet to be at greater risk for STDs than those who do not seek sex on the Internet. The comparison was based on cross-sectional survey data collected from clients of the Denver Public Health HIV Counseling and Testing Site in Colorado. The results indicated that Internet sex seekers were more likely to be men and homosexual than those not seeking sex via the Internet. Internet sex seekers reported more previous STDs, more partners, more anal sex, and more sexual exposure to men, men who have sex with men and partners known to be HIV positive, than those not seeking sex via the Internet.

[1]McFarlane M, Bull SS, Rietmeijer CA. The Internet as a newly emerging risk environment for sexually transmitted diseases. *Journal of the American Medical Association* 2000, 284(4):443-446.

Sexual Mixing Patterns in the Spread of Gonococcal and Chlamydial Infections

Recently, a number of scientific articles have highlighted the role of patterns of sexual connections for STD transmission dynamics. Recent findings described the effects of sexual mixing across age, race-ethnicity, socioeconomic status and sexual activity groups on risk for gonorrhea and chlamydial infection[(2)]. Based on data collected through face-to-face interviews with STD patients and STD clinic attendees in Seattle, Washington, the authors reported that partnerships discordant in terms of age, race/ethnicity, socioeconomic status and number of partners were associated with significant risk for gonorrhea and chlamydial infection. In this study, in low-prevalence subpopulations, within-subpopulation mixing was associated with chlamydial infection, and direct links with high prevalence subpopulations were associated with gonorrhea. These findings show that mixing patterns influence the risk of specific infections and should be included in risk assessments for individuals and in the design of screening, health education, and partner notification strategies for populations.

[2]Aral SO, Hughes JP, Stoner B, Whittington W, Handsfield HH, Anderson RM, Holmes KK. Sexual mixing patterns in the spread of gonococcal and chlamydial infections. *American Journal of Public Health* 1999, 89(6):825-832.

Alcohol Policy and Sexually Transmitted Disease Rates - United States, 1981-1995

Teenagers and young adults are at higher risk for acquiring sexually transmitted diseases (STDs) than older adults, and this risk is even higher for young people who consume alcohol [(3)]. If alcohol consumption does promote risky sexual behavior (through disinhibition due to the effects of alcohol), then government alcohol policies (such as alcohol taxation and minimum legal drinking age requirements) that discourage teen drinking might reduce STD incidence in teenagers and young adults. This study examined the association between gonorrhea incidence rates and alcohol policy in all 50 states and the District of Columbia for the years 1981 to 1995. Over this period, a statistically significant majority of the state beer tax increases were followed by a decrease in the gonorrhea rate (as compared to states without a beer tax increase) rate in young adults (24 of 36 States in the 15-19 year age group and 26 of 36 states in the 20-24 year age group), and this relationship was more pronounced for gonorrhea rates in men than in women. Similarly, a majority of the drinking age increases were followed by a relative proportional decrease in the gonorrhea rate, and this majority was statistically significant in the 15-19 year age group (29 of 44 states) but not the 20-24 year age group (18 of 33 states). A regression analysis supported these findings, as higher beer taxes were associated with lower gonorrhea rates in young adults in both age groups, and drinking age increases were associated with lower gonorrhea rates in the 15-19 year age group. The model estimates indicated that tax increases of $0.20 per six pack of beer and $1.00 per gallon of liquor tax may be associated with 2 to 9 percent reductions in gonorrhea incidence rates per year.

[3]Chesson HW, Harrison P, Irwin KL, Kassler WJ, Shelton D. Alcohol policy and sexually transmitted disease rates - United States, 1981-1995. *Morbidity and Mortality Weekly Report* 2000; 49(16):346-349.

Division of STD Prevention - 2000 Publications*

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Belcher L, **St. Lawrence JS**. Women and HIV. Edited by Lorraine Sherr and Janet St. Lawrence, John Wiley & Sons, Ltd. *Women, Health and the Mind* 2000; Chapter 17.

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Crosby RA, **St. Lawrence JS**. Adolescents' use of school-based health clinics for reproductive health services: data from the National Longitudinal Study of Adolescent Health. *Journal of School Health* 2000; 70(1):22-27.

Crosby RA, Yarber WL, Meyerson B. Prevention strategies other than male condoms employed by low-income women to prevent HIV infection. *Public Health Nursing* 2000; 17(1):53-60.

Ethier KA, Fox-Tierney R, Nicholas WC, Salisbury KM, Ickovics JR. Organizational predictors of prenatal HIV counseling and testing. *American Journal of Public Health* 2000; 90(9):1448-1451.

Greenberg J. Sexual victimisation of girls: implications for women's health and for prevention. Edited by Lorraine Sherr and **Janet St. Lawrence**, John Wiley & Sons, Ltd. *Women, Health and the Mind* 2000; Chapter 15.

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*Names in bold = DSTDP authors

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McFarlane M, Bull SS, Rietmeijer CA. The Internet as a newly emerging risk environment for sexually transmitted diseases. *Journal of the American Medical Association* 2000; 284(4):443-446.

Miller S, Exner TM, **Williams SP**, Ehrhardt AA. A gender-specific intervention for at risk women in the USA. *AIDS Care* 2000; 12(5):603-612.

Epidemiology and Surveillance Branch

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Coggins C, Blanchard K, Alvarez F, Brache V, Weisberg E, **Kilmarx PH**, Lacarra M, Massai R, Mishell D Jr, Salvatierra A, Witwatwongwana P, Elias C, Ellertson C. Preliminary safety and acceptability of a carrageenan gel for possible use as a vaginal microbicide. *Sexually Transmitted Infections* 2000; 82:480-483.

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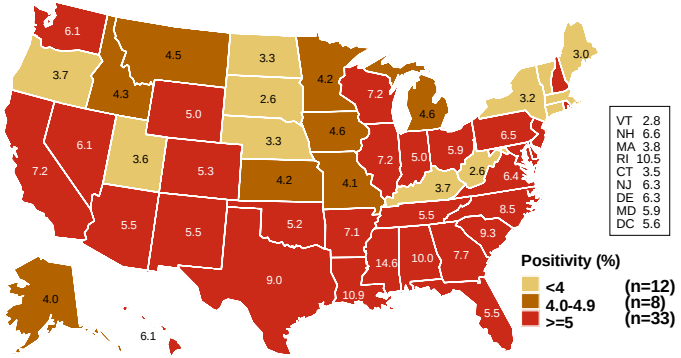
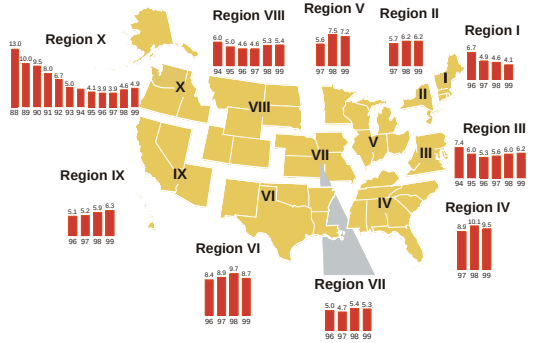
Chlamydia — Positivity among 15-24 year old women tested in family planning clinics by state, 1999



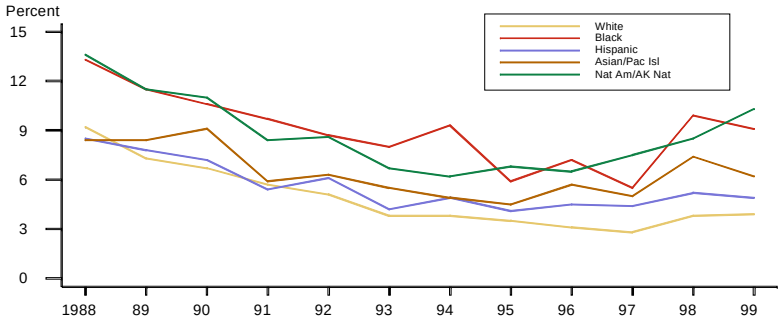
Note: States reported chlamydia positivity data on at least 500 women aged 15-24 years screened during 1999 except for Rhode Island; for Puerto Rico, - chlamydia positivity data were reported for August-December only.
SOURCE: Regional Infertility Prevention Programs; Office of Population Affairs; Local and State STD Control Programs; Centers for Disease Control and Prevention

Chlamydia — Trends in positivity among 15-44 year old women tested in family planning clinics by HHS regions, 1988–1999



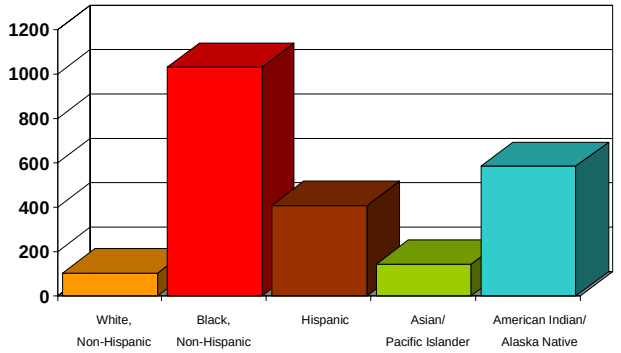
Note: Trends adjusted for changes in laboratory test method and associated increases in test sensitivity. No data on laboratory test method available for Region VII in 1995 and Regions IV and V in 1996.
SOURCE: Regional Infertility Prevention Programs; Office of Population Affairs; Local and State STD Control Programs; Centers for Disease Control and Prevention

Chlamydia — Positivity among women tested in family planning clinics by race and ethnicity: Region X, 1988–1999

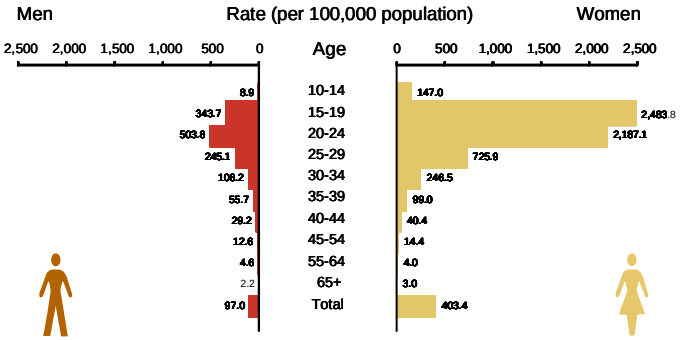


Note: Women who met screening criteria were tested. Trends not adjusted for changes in laboratory test method in 1994 and 1999 and associated increases in test sensitivity.
SOURCE: Regional Infertility Prevention Program: Region X Chlamydia Project (Alaska, Idaho, Oregon and Washington)

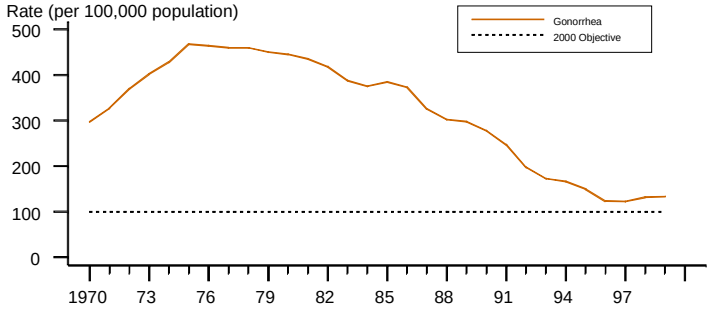
Chlamydia — Reported rates per 100,000 population by race/ethnicity: United States,1999



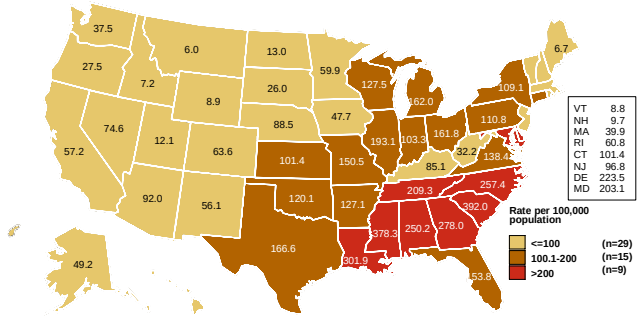
Chlamydia — Age- and gender-specific rates: United States, 1999



Gonorrhea — Reported rates: United States, 1970–1999 and the Healthy People year 2000 objective

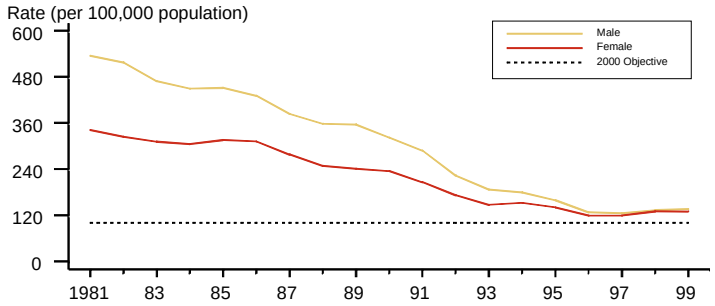


Gonorrhea — Rates by state: United States and outlying areas, 1999

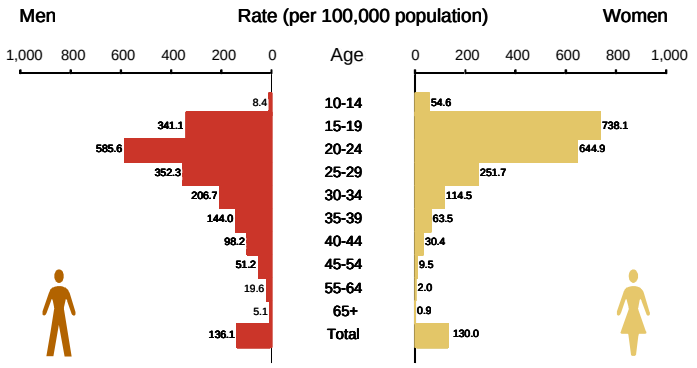


Note: The total rate of gonorrhea for the United States and outlying areas (including Guam, Puerto Rico and Virgin Islands) was 131.4 per 100,000 population. The Healthy People year 2000 objective is 100 per 100,000 population.

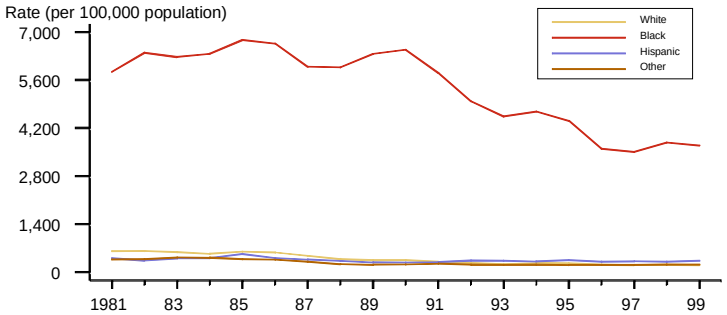
Gonorrhea — Rates by gender: United States, 1981–1999 and the Healthy People year 2000 objective



Gonorrhea — Age- and gender-specific rates: United States, 1999

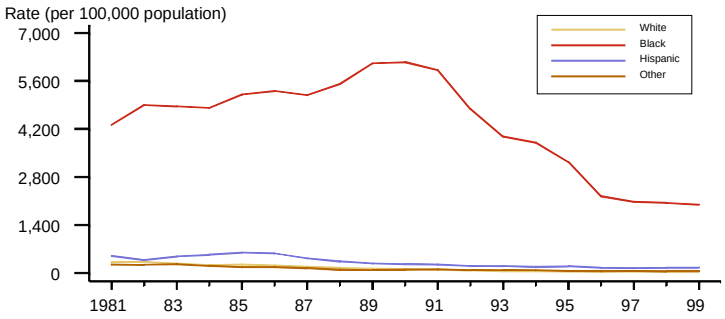


Gonorrhea — Reported rates for 15-19 year old females by race and ethnicity: United States, 1981–1999



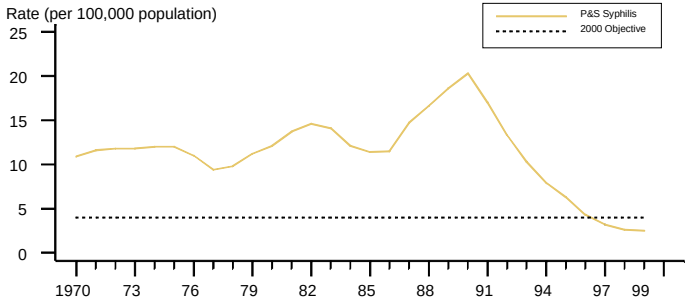
Note: Black, White, and Other are non-Hispanic.

Gonorrhea — Reported rates for 15-19 year old males by race and ethnicity: United States, 1981–1999

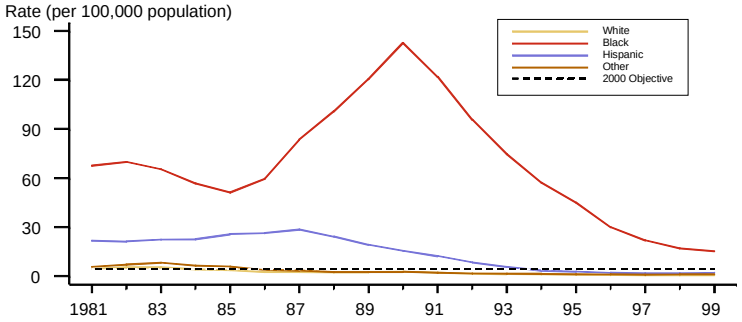


Note: Black, White, and Other are non-Hispanic.

Primary and secondary syphilis — Reported rates: United States, 1970–1999 and the Healthy People year 2000 objective

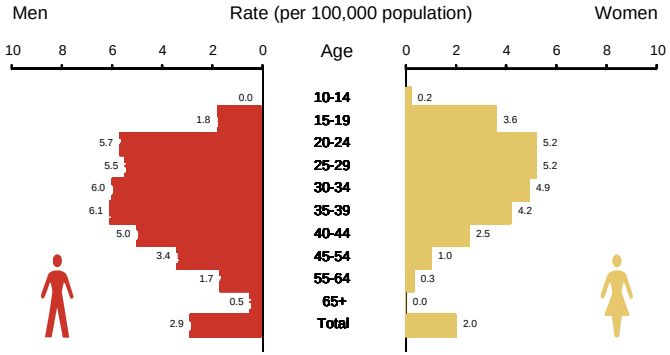


Primary and secondary syphilis — Rates by race and ethnicity: United States, 1981–1999 and the Healthy People year 2000 objective

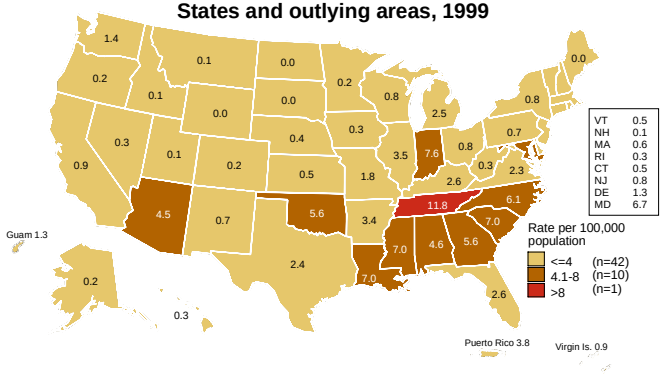


Note: "Other" includes Asian/Pacific Islander and American Indian/Alaska Native populations. Black, White, and Other are non-Hispanic.

Primary and secondary syphilis — Age- and gender-specific rates: United States, 1999

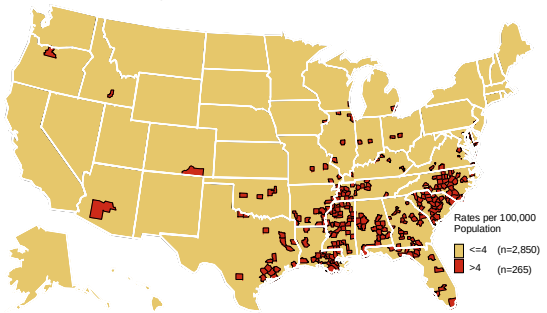


Primary and secondary syphilis — Rates by state: United States and outlying areas, 1999



Note: The total rate of primary and secondary syphilis for the United States and outlying areas (including Guam, Puerto Rico and Virgin Islands) was 2.5 per 100,000 population. The Healthy People year 2000 objective is 4.0 per 100,000 population.

Primary and secondary syphilis — Counties with rates above and counties with rates below the Healthy People year 2000 objective: United States, 1999

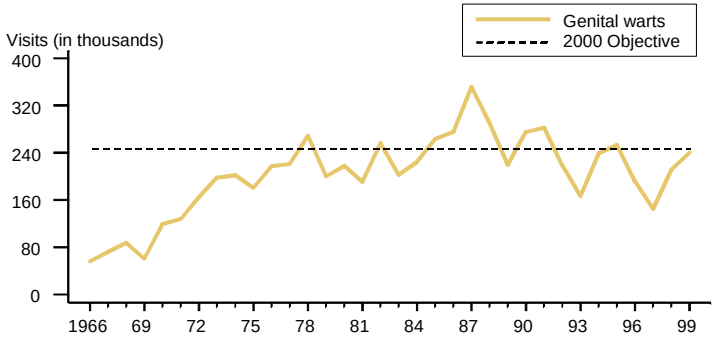


HPV-16 Seroprevalence by Sex, Race, and Age

Variable	Overall		Females		Males	
	Prevalence	95% C.I.	Prevalence	95% C.I.	Prevalence	95% C.I.
Total	13.0	11.5-14.7	17.9	15.8-20.3	7.9	6.4-9.8
Age (yrs)						
12-19	5.1	3.9-6.8	6.8	4.8-9.6	3.5	2.2-5.6
20-29	14.6	12.5-17.1	24.7	20.0-30.4	4.4	2.6-7.4
30-39	14.7	12.1-17.7	17.8	14.0-22.6	11.5	8.4-15.7
40-49	17.0	13.7-21.0	23.9	19.7-29.0	9.8	6.0-15.8
50-59	10.6	8.1-13.8	11.0	8.4-14.4	10.2	6.7-15.4
Race						
White	12.5	10.7-14.5	17.0	14.7-19.7	8.0	6.0-10.5
African-American	19.1	17.0-21.5	27.2	23.8-31.0	9.6	7.6-12.2
Mexican-American	8.9	7.9-10.1	12.2	10.4-14.4	5.9	4.6-7.5

National Seroprevalence of Human Papillomavirus Type 16 (HPV-16), KM Stone, CDC

Human papillomavirus (genital warts) — Initial visits to physicians' offices: United States, 1966–1999 and the Healthy People year 2000 objective



SOURCE: National Disease and Therapeutic Index (IMS America, Ltd.)

		NHANES II (1976-1980)*	NHANES III (1988-1994)*
		Percent Seroprevalence**	Percent Seroprevalence**
Whites	12-19	1	4.5
	20-29	7.7	14.7
Blacks	12-19	5.7	8.8
	20-29	29.5	33.3
Mexican-Americans	12-19	not available	5.4
	20-29	not available	14.8

Herpes Changes in HSV-2seroprevalence among teens and young adults by race NHANES II(1976-1980) and NHANES III(1988-1994)*

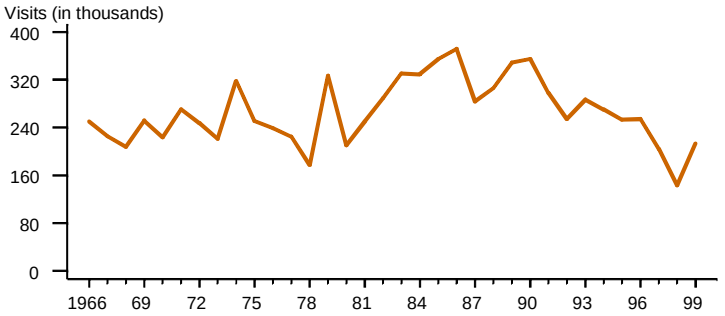
*Seroprevalencehas been adjusted to the 1980 census.
** Rounded to the nearest tenth.

Category of Subjects	NHANES II (1976-1980)*	NHANES III (1988-1994)*	Percent Relative Increase
	Age-Adjusted Percent Seroprevalence	Age-Adjusted Percent Seroprevalence	
All races and ethnic groups**			
Both sexes	16.0	20.8	30
Men	13.4	17.1	27
Women	18.4	24.2	32
Whites			
Both sexes	12.7	16.5	30
Men	10.7	14.1	32
Women	14.5	18.7	29
Blacks			
Both sexes	43.6	47.6	9
Men	34.1	37.5	10
Women	51.4	55.7	8

Herpes Changes in age-adjusted HSV-2 seroprevalence between NHANES II (1976-1980) and NHANES III(1988-1994)*

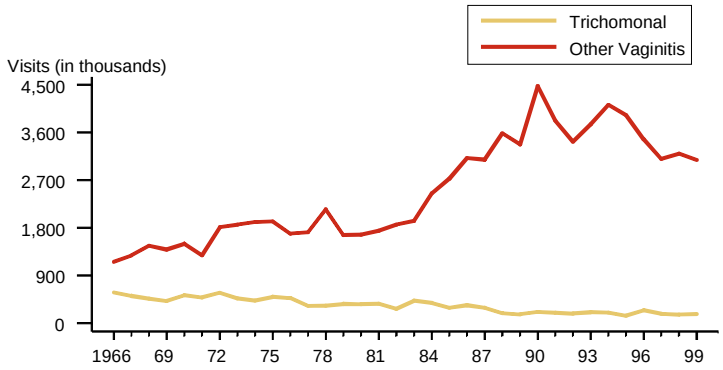
*Seroprevalence has been adjusted to the 1980 census. The age range is≥12 years.
**Totals differ from the numbers for whites and blacks because other races and ethnic groups are included in the category of all races and ethnic groups.

Nonspecific urethritis — Initial visits to physicians' offices by men: United States, 1966–1999



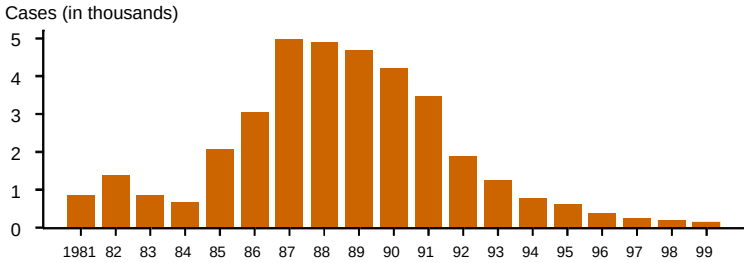
SOURCE: National Disease and Therapeutic Index (IMS America, Ltd.)

Trichomonal and other vaginal infections — Initial visits to physicians' offices: United States, 1966–1999

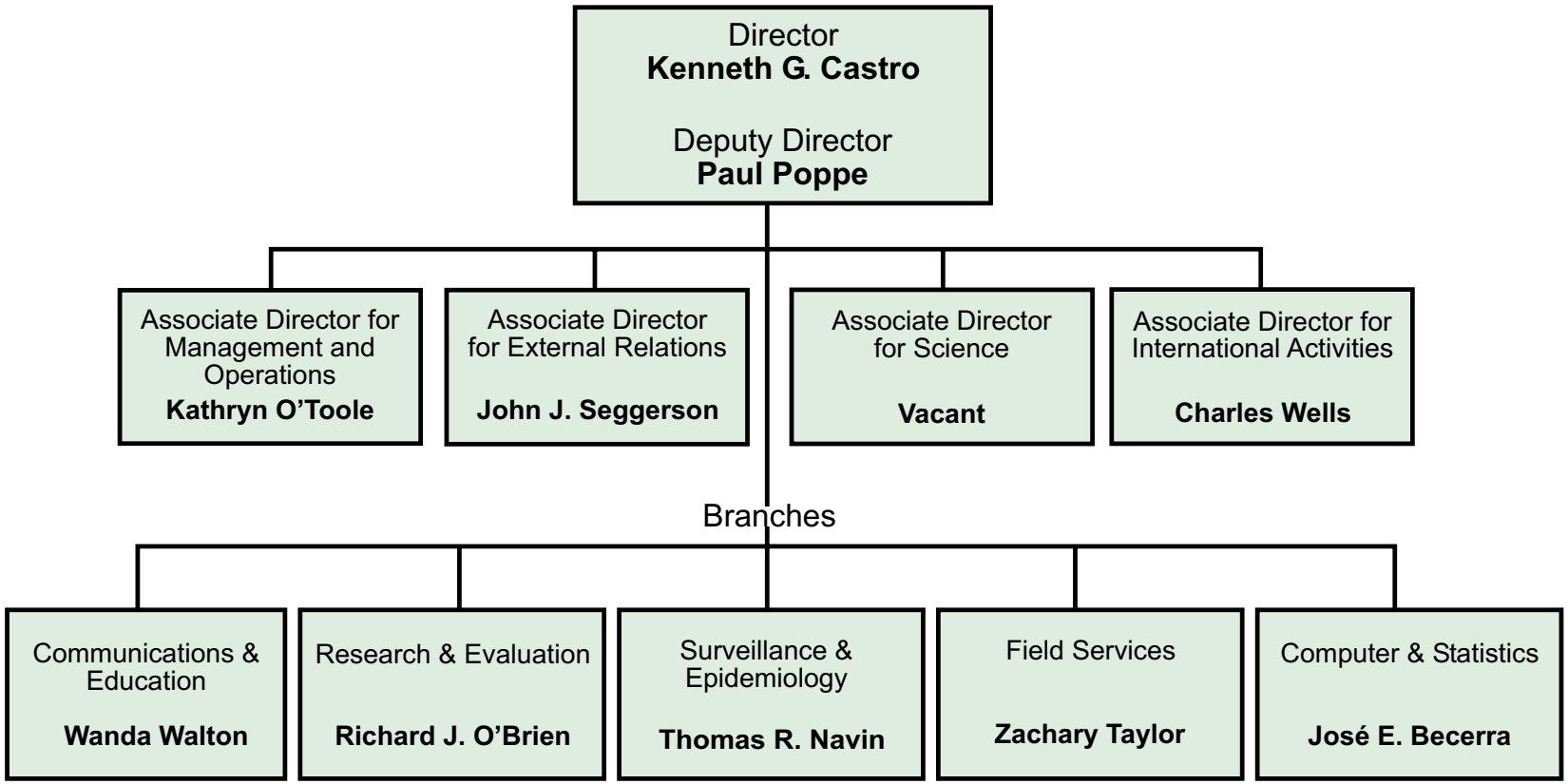


SOURCE: National Disease and Therapeutic Index (IMS America, Ltd.)

Chancroid — Reported cases: United States, 1981–1999

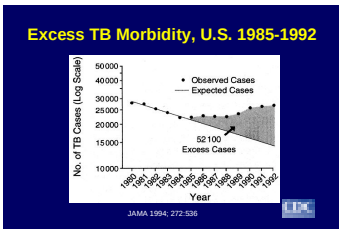


Division of Tuberculosis Elimination

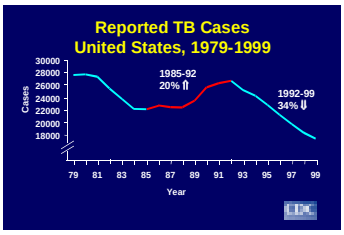


Tuberculosis Prevention, Control, and Elimination: Needs, Opportunities, and Challenges

Background: From 1985-1992, the nation experienced a resurgence of TB and a concurrent widespread occurrence of multidrug-resistant TB. The most important factor that set the stage for resurgence was the dismantling of TB services during the disappearance of categorical funds in the late 1970s and early 1980s. In response to the resurgence of TB, CDC developed and published the National Action Plan to Combat Multidrug-Resistant TB, and allocated new resources to implement action steps outlined in the plan, resulting in great strides in TB elimination. In 2000, a second plan, *Ending Neglect*, was developed by the Institute of Medicine (IOM) providing recommendations to further advance TB elimination.



Accomplishments:



- CDC developed and published the *National Action Plan to Combat Multidrug-Resistant TB*, and allocated new resources to begin the implementation of several action steps outlined in that plan. These new resources were quickly mobilized and led to: 1) improved identification of TB cases; 2) upgraded safe laboratories for early diagnosis and prompt identification of drug resistance; 3) improved routine and systematic drug susceptibility testing; 4) updated treatment recommendations; 5) implementation of broad-scale use of directly observed therapy as a tool to improve treatment completion; and 6) emphasis on the ongoing need for program evaluation.
- There was a 12% decline in TB cases from 1997 to 1999, despite a 16% decrease in federal funding*;
- There was a 34% reduction in TB mortality from 1992 to 1999, an all-time low;
- Updated guidelines were developed and published for targeted tuberculin skin testing and treatment of latent infection;
- Newly emphasized targeted testing and treatment programs were developed and implemented in 2000 — 15 programs were funded;
- Evaluation plan to measure results of the program in 2001 was developed;
- Outbreak response plan and surge capacity were developed, leading to an increased number of collaborations between states and CDC for initial rapid response to outbreaks;
- Ten new Public Health Advisors (PHAs) for TB control programs were recently hired. No PHAs had been recruited since 1993; and
- During the CDC/ATSDR Health Education Day celebration on November 2, 2000, the Communications and Education Branch (CEB) of DTBE was awarded the Public Health Education and Promotion Network (PHEP-Net) “Distinguished Health Education Program Award” for the Self-Study Modules on Tuberculosis. The Self-Study Modules on Tuberculosis consists of educational material in print, satellite, videotape, and Web-based formats; this variety of materials and mediums meets the different educational and training needs of our diverse target audience (outreach workers, public- and private-

*Funding trends based on adjusted 1990 US dollars.

Tuberculosis Prevention (continued)

sector nurses and physicians). Other awards received for these materials include the International Society for Performance Improvement Award; CDC Communicators Roundtable Award; and the International Health and Medical Media “Freddie” Award from the American Medical Association and Time, Inc.

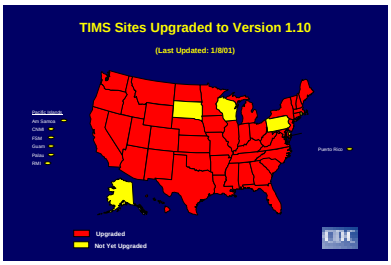
Challenges: To achieve the goal of TB elimination, it is crucial to:

- Maintain control of TB while adapting to a declining TB incidence and changing systems of health care financing and management;
- Respond to complex TB outbreak investigations with new methodologies;
- Accelerate the decline of TB and advance toward elimination through increased efforts related to targeted tuberculin skin testing and treatment of latent infection;
- Invest in research and development of new tools needed for the ultimate elimination of TB, new tests for TB diagnosis (particularly for diagnosis of infection), new treatments, and an effective vaccine;
- Increase U.S. involvement in global efforts to prevent, control, and eliminate tuberculosis; and
- Mobilize support for TB elimination and regularly measure progress toward that goal.

Tuberculosis Information Management System (TIMS)

Background: The Tuberculosis Information Management System (TIMS) is a Windows-based, client server application that assists health departments and other facilities in conducting TB surveys and managing TB patients.

Accomplishments:



- All 59 reporting areas are using TIMS at the central level for TB surveillance; smaller numbers (25 areas nationwide, with a total of 53 sites) are using TIMS for case management.
- In addition, 77 local sites in 15 reporting areas are using TIMS for surveillance purposes.
- Last year, TIMS version 1.1 was deployed; this version represents a substantial performance and functional improvement over previous releases.
- The vast majority of the reporting areas have been upgraded to TIMS version 1.1.
- The TIMS import utility is almost ready to be field tested.

Challenges: The need to manage, analyze, and synthesize TB information at the local, state, and national levels is critical. When information such as that managed by TIMS is transformed into organizational knowledge, TB control programs throughout the nation become empowered to perform organizational work. Plans include the following:

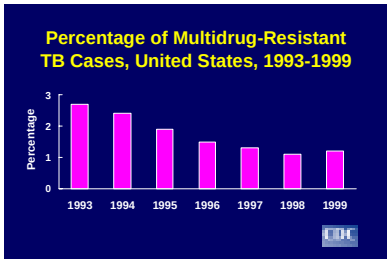
- Retool TIMS to become a Web-enabled application in accordance with new standards being developed by CDC as part of the National Electronic Disease Surveillance System (NEDSS).
- Train technical staff to build prototypes that would allow us to benchmark performance issues in key areas such as data entry validation rules on which TIMS is so heavily dependent.

Monitoring Progress Toward TB Elimination: National TB Surveillance

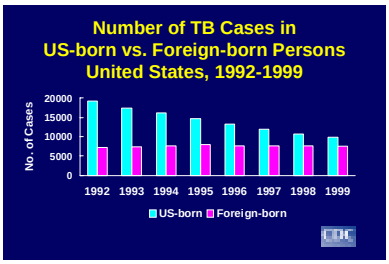
Background: The National Tuberculosis (TB) Surveillance System has provided fundamental data on the epidemiology of TB in the United States since 1953. The system collects basic demographic and clinical information and, since 1993, information on TB risk factors, drug resistance, and treatment.

Accomplishments: The National TB Surveillance System is a powerful tool for monitoring trends in TB. Following are some examples of ways the system has been used successfully:

- Reported TB Cases. There was a resurgence of TB in the late 1980s, which peaked in 1992. The system was critical in the early detection of the resurgence and provided the scientific basis for obtaining an increase in the resources that were required to control the epidemic. Since the peak in 1992, there have been steady annual declines.



- Multidrug-Resistant TB. The percentage of multidrug-resistant TB cases during 1993 to 1999 decreased from nearly 3% to 1%, representing an absolute decrease from nearly 500 MDR cases in 1993 to approximately 150 in each of the latter 2 years. The trends for both primary and acquired resistance, based on data from patients with no history of previous TB and those with a history of previous TB, respectively, were similar.



- Groups at Risk for TB. During the years 1992 to 1999, the number of cases in foreign-born persons remained at approximately 7,500 each year, whereas the number in U.S.-born persons substantially decreased from more than 19,000 in 1992 to less than 10,000 in 1999. The percentage of cases occurring in foreign-born persons during this period increased from approximately 25% to nearly 45% in 1999.

Challenges: To improve the ability to monitor progress toward TB elimination, we must meet the following challenges:

- The current level of support for the existing TB surveillance infrastructure must be maintained, if not increased;

- Capacity at state and local health departments to improve the accuracy and timeliness of surveillance systems and case counting mechanisms must be built; and

- New or improved indicators of our progress must be developed to supplement the systems currently in place.

Building DTBE's Outbreak Response Capability

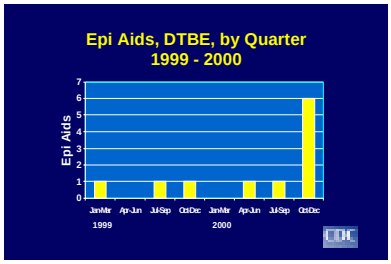
Background: To eliminate tuberculosis (TB), a rapid response to TB outbreaks is a crucial element for the Division of TB Elimination and our partners at state and local health departments. The Institute of Medicine (IOM) report, *Ending Neglect,* indicates that the health department infrastructure of many of our low-incidence states has deteriorated, leading to inadequate fiscal and human resources. Because of this, they have not been able to mount the appropriate effort to address outbreaks or unusual events of TB transmission.

Accomplishments:

- In February 2000, DTBE formed a planning committee to develop an outbreak response initiative that would optimize the timeliness and quality of the responses of both DTBE and the state and local health departments. The focus of the initiative was to help health departments discover, interrupt, and prevent TB transmission. The result was an outbreak response plan (ORP) that addresses the following key elements or needs: 1) increase the TB knowledge base; 2) evaluate program activities and effectiveness; 3) build expertise at health departments and DTBE; 4) provide training (EIS officers, state/local, DTBE); 5) conduct medium- and long-range interventions; 6) provide assistance in identifying resources for partners; 6) develop an accountable tracking system; and 7) assess the impact of outbreak responses (how to measure).

- Following the release of the IOM report, the IOM Outbreak Response Workgroup was formed to develop 1) an implementation plan for the ORP, 2) ways to improve detection of outbreaks, 3) guidelines for state and local health departments to respond to outbreaks and when to request outside help, and 4) an evaluation plan of our responses.

- From October through December 2000, DTBE responded to six requests for epidemiologic assistance, more than in the preceding seven quarters combined. The increased workload has required the following adjustments: 1) raise outbreak investigation efforts to the section level, 2) assign new staff, and 3) call on EIS officers outside DTBE to help increase our surge capacity.



Challenges: The epidemiology of TB is changing. Challenges include:

- An increasing proportion of cases are found in hard-to-reach populations, such as homeless or drug-addicted persons;

- The character of investigations has changed. Previous investigations focused on hospitals, prisons, and schools. Current investigations focus on places such as homeless shelters and crack houses; and

- There are more incidents of delayed or missed diagnosis due to declining clinical expertise.

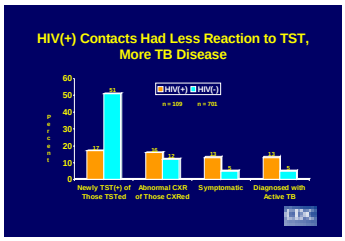
The Use of Contact Investigations to Prevent Tuberculosis Among Persons with HIV Infection

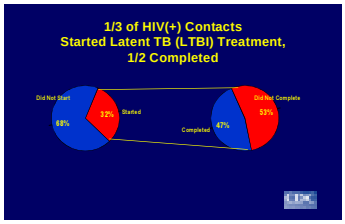
Background: Prevention of tuberculosis (TB) in persons with HIV remains an ongoing concern.

- HIV-positive persons comprise 10% of U.S. TB cases. Among 25- to 44-year-olds, they comprise 20% of cases, and 30% of the cases in New York City and Washington, DC.
- HIV infection remains the greatest known risk factor for active TB.
- An estimated 250,000 persons in the United States are unaware that they are HIV positive.
- TB contact investigation provides an opportunity to diagnose HIV, treat and prevent TB, and link HIV-positive persons to care.
- Preventing TB in HIV-positive persons through TB contact investigation is important to both AIDS prevention and TB elimination.

TB contact investigation provides the opportunity for 1) early identification of HIV and TB infection, 2) the prevention of active TB, and 3) access to needed health care and social services for a high-risk population that might not otherwise access services early or at all.

Accomplishments: CDC conducted a study that sampled over 1,000 infectious adult TB patients from 11 urban TB programs from July 1996 to June 1997. Significant findings included:





- 87% of 6,225 close contacts had unknown HIV status. Of the 810 with a known status, 109 (13%) were HIV positive.
- HIV-positive contacts were not fully evaluated for TB infection, 17% did not receive an initial TB skin test, 28% did not receive a chest x-ray, and 8% received neither a TB skin test nor a chest x-ray.
- HIV-positive contacts had less reaction to TB skin tests and more TB disease; 13% of HIV-positive contacts were identified with active TB, compared with 5% of HIV-negative contacts.
- Of those without TB disease, one-third of HIV-positive contacts began treatment of latent TB infection (LTBI); one-half of those persons completed the treatment.

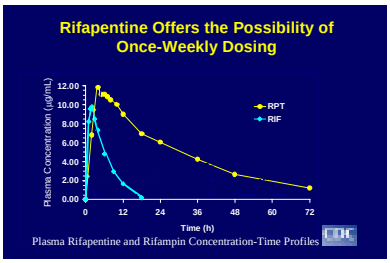
Challenges: TB and HIV providers should be aware that HIV-positive contacts have an extraordinary risk for active TB, and should collaborate to promptly recognize and treat these contacts by:

- Offering HIV voluntary counseling and testing to all close contacts early in medical evaluation;
- Fully evaluating HIV-positive contacts for TB infection and disease using TB skin testing, symptom screening, chest radiography, and sputum exam if there are symptoms or an abnormal chest x-ray;
- Starting treatment for LTBI regardless of TB skin test results, age, or history of previous LTBI treatment for HIV-positive contacts without active TB;
- Facilitating TB treatment adherence using a two-month regimen of rifampin (or rifabutin)/pyrazinamide, directly observed therapy, and incentives or enablers (housing, food, transport); and
- Linking HIV-positive contacts to needed medical and social services.

Investigation of Improved Treatment Regimens for Active TB

Background: Present treatment regimens for active TB are highly effective but very long and labor-intensive. Directly observed therapy (DOT) using the standard twice-weekly regimen requires at least 58 contacts between patient and health care worker (HCW) over a period of six months. Similar challenges confront our current therapies for latent TB infection (LTBI).

Accomplishments: Among new agents with activity against *M. tuberculosis*, the one that is furthest along in development and that has been tested in phase III clinical trials is rifapentine, a rifamycin derivative with a serum half life that is five times greater than that of rifampin, allowing for its use in regimens that are administered only once weekly. These regimens would reduce by over 30% the number of DOT visits that are needed to complete a full course of TB treatment.



TB Trials Consortium (TBTC) Study 22 is a randomized, open-label clinical trial that compared the safety and efficacy of a once-weekly isoniazid and rifapentine regimen with the standard twice-weekly isoniazid and rifampin regimen during the continuation phase of therapy for pulmonary TB. All study patients were followed for 24 months after the end of therapy to assess the occurrence of relapse.

Analysis of Study 22 data demonstrated the following:

- TB treatment with once-weekly isoniazid and rifapentine is equally as safe as, but somewhat less efficacious than, treatment with twice-weekly isoniazid and rifampin (relative risk of failure/relapse 1.66 [crude]; 1.30 [adjusted]).

- Using either treatment regimen, the risk of failure/relapse was low among HIV-negative persons with noncavitary disease. Thus, it is possible to use the once-weekly isoniazid and rifapentine regimen with confidence in such low-risk TB patients, a group that represents up to 45% of pulmonary TB patients seen in the United States.

- Even under optimal conditions with full DOT, the currently recommended standard regimen for TB treatment (twice-weekly isoniazid and rifampin) has a high rate of failure/relapse for some patients.

Recommendations for how to use rifapentine in the treatment of TB will be incorporated into the new ATS/CDC/IDSA guidelines that will be issued this year. Study 22 findings will also be used to update recommendations regarding standard therapy with rifampin-based regimens for high-risk TB patients.

The role of rifapentine in TB therapy continues to be better defined by the TBTC. We are presently concluding analyses of a pharmacokinetics/pharmacogenetics substudy (TBTC Study 22 PK) and of a dose-escalation study (TBTC Study 25) of rifapentine.

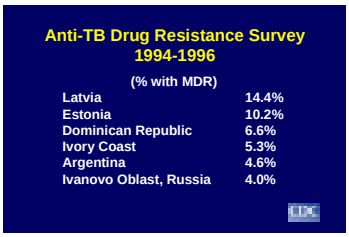
Challenges:

- Comprehensive analyses of data from this ongoing study are needed to fully define the role of this promising new drug; and

- Rifapentine will also be evaluated as an agent for the prevention of active TB in a prophylaxis trial that will compare the standard LTBI regimen (9 months-270 doses of isoniazid) with a 3-month/12-dose regimen of isoniazid and rifapentine. This study (TBTC Study 26) will begin in Spring 2001. Its required sample size of 8,000 patients will require expansion of the TB Trials Consortium beyond its current capacity.

Treatment and Management of Multidrug-Resistant (MDR) TB in Latvia

Background: Following the disintegration of the Soviet Union in 1991, Latvia, like many former Soviet Republics, faced substantially depleted resources for tuberculosis (TB) control. The supply of anti-TB drugs became erratic and unreliable, treatment regimens were poor and outdated, and treatment-completion rates, as a rule, were poor. Institutional infection control was also poor and, as a result, high levels of TB transmission were occurring in prisons and hospitals with high numbers of staff developing TB and multidrug-resistant (MDR) TB. Additionally, there were major delays in diagnosing drug resistance due to poor laboratory proficiency.



Accomplishments: The initial steps taken by the Latvian National TB Program were modeled on the response in the United States to the MDR TB epidemic in New York City and other areas in the early 1990s.

- To strengthen their basic TB program, Latvians began by implementing the World Health Organization (WHO)–defined directly observed treatment, short-course (DOTS) strategy by the end of 1996. Under the technical guidance of Sweden, national laboratory proficiency and capacity were improved. The national surveillance system was improved by the adoption of WHO reporting standards and by computerization. With guidance from CDC, they also began to address infection control issues in hospitals.

- To manage the existing MDR TB burden, Latvians started a civilian and prison DOTS-plus program in 1998 to treat the roughly 200 MDR TB patients diagnosed each year. These efforts resulted in a 30% reduction of the level of MDR TB in Latvia by 1998.

- CDC will serve a role in the Gates Foundation–supported large collaborative MDR TB project between CDC, WHO, Partners in Health/Harvard, and the Task Force for Infant and Childhood Survival, based in Peru. This project will focus on establishing a viable and sustainable model for managing MDR TB in the setting of a resource-limited country with high TB prevalence.

Challenges:

- Additional resources will be required to develop the Latvian Center of Excellence as a sustainable training resource for MDR TB in the region;

- Further expansion of training capabilities is needed to meet the growing demand of TB programs;

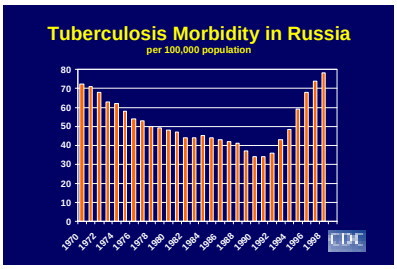
- Additional rapid diagnostic technologies must be studied. The cost-effectiveness analysis of these technologies is critical to determining what will be feasible for use in resource-poor countries such as Latvia;

- Infection control efforts must be broadened to include smaller regional TB facilities, clinics, and prison facilities within Latvia. These measures will serve as a model for TB infection control for the region; and

- Effective approaches and strategies for managing alcohol-addicted patients and patients who interrupt treatment must be pursued.

Improving TB Control in Russia

Background: Why is CDC involved in TB control in Russia?



- Tuberculosis (TB) morbidity had been declining in Russia from the early 1970s until the collapse of the Soviet Union in 1991. Since that time, it has nearly doubled, to 80 cases per 100,000 by the end of 1998. In one of the Russian project sites, Ivanovo, the incidence of primary multidrug-resistant (MDR) TB had risen from 3.8% in 1996 to 8.9%.
- Russia has been targeted as one of the countries contributing to the world's TB burden by the Stop TB Initiative and the World Health Organization (WHO), and is a "hot spot" for MDR TB worldwide.

Accomplishments: In March 1999, CDC, in collaboration with WHO, the Russian Ministry of Health, the Central Tuberculosis Research Institute (CTRI), the U.S. Agency for International Development (USAID), and others working on TB in Russia, began focusing on controlling the epidemic in three pilot areas. The project is focused on developing new strategies for dealing with TB and MDR TB, developing laboratory capacity, and developing surveillance systems in both the prison and general population of three oblasts. CDC has been heavily involved in providing technical assistance to WHO and to the World Bank for the development of its TB project proposal for Russia, including the following:

- CDC conducted two epidemiologic assessments in Ivanovo in February and August 1999, which resulted in a restructuring of the Ivanovo project; a focus on directly observed treatment, short-course (DOTS), i.e., strengthening the basic TB control services; and a postponement of implementing DOTS-plus (treatment of MDR TB).
- In 1999, CDC sent three Public Health Advisors (PHAs) on temporary assignments to Moscow, Orel, and Ivanovo, which led to the first draft of a WHO/CDC/USAID/CTRI protocol for TB demonstration projects, completion of a risk-factor study for MDR TB in Ivanovo, and the initiation of the DOTS project in Orel.
- CDC has launched DOTS projects in Orel, Ivanovo, and Vladimir with the intent to develop models for TB control in other parts of the former Soviet Union.
- In 2000, CDC sent two PHAs on temporary assignments to Ivanovo and Vladimir, which led to the development of a draft protocol for case management in Ivanovo and the initiation of the DOTS project in Vladimir.
- A revised TB protocol was completed in June 2000, taking into account extensive comments from Russian and other international colleagues, which included a modified re-treatment regimen. This protocol was widely publicized, and has become a template for World Bank–supported TB projects.
- CDC has participated in extensive laboratory assessments in all project areas and continues working on laboratory upgrading, training, and quality assurance with major input from NCID/DASTLR.
- CDC has continuously worked with Russian colleagues and WHO to revise and upgrade their nationwide surveillance system.
- DOTS performance outcomes have begun to improve in the Ivanovo Oblast due to intensive supervision and the implementation of patient incentives and enablers.
- The Orel Oblast project is considered an early success with estimated completion rates over 83%.

Challenges:

- The number of Russian prisoners with active pulmonary TB has remarkably increased during 1992 to 1999, with TB overflowing into the civilian sector;
- HIV prevention efforts need to be increased among populations at risk for TB;
- WHO district-level training modules must be revised. This will become the basis for training health care workers in Russia;
- Drug-resistance surveillance needs to be expanded to the three project areas to quantify the drug-resistance problem;
- Laboratory upgrading and quality assurance must be sustained;
- Nosocomial/institutional TB prevention needs to be addressed; and
- Modern methods for rapid culture and drug susceptibility testing in our project sites need to be investigated, and persons with MDR TB will need DOTS-plus access in Orel, Ivanovo and eventually Vladimir.

Key Research Findings

Tuberculosis Among Foreign-born Persons in the United States, 1993-1998

Immigration has contributed substantially to changes in TB epidemiology in the United States during the last decade and is considered an important factor in the resurgence of TB during the late 1980s and early 1990s. Although the number of reported cases of TB has decreased steadily since the peak of the resurgence in 1992, the decline has been limited to persons born in the United States. To highlight national trends in characteristics of foreign-born TB patients and the potential implications for TB program planning and policy development, data from the national TB surveillance system were analyzed. During the study period of 1993 through 1998, the proportion of U.S. cases that were in foreign-born persons increased from 29.8% to 41.6%. The TB case rate was 32.9 per 100,000 population in foreign-born persons during this period compared with 5.8 per 100,000 in U.S.-born persons. Six states reported nearly 75% of cases in foreign-born persons. Approximately two-thirds of foreign-born persons with TB were originally from Mexico, the Philippines, Vietnam, India, China, Haiti, and South Korea. Among those for whom the date of U.S. entry was known, more than 50% arrived five years or less prior to the diagnosis of TB. The authors conclude that continued efforts to tailor local TB control strategies to the foreign-born community and commitment to the global TB battle are essential.

Talbot EA, Moore M, McCray E, Binkin NJ. Tuberculosis among foreign-born persons in the United States, 1993-1998. *Journal of the American Medical Association* 2000;284:2894-2900.

TBTC Study 22

- **Study 22 is a TB clinical trial evaluating the efficacy and safety of a once-weekly regimen of isoniazid and the new drug rifapentine (HP1)** compared to standard twice-weekly INH and rifampin (HR2) in the four-month continuation phase of therapy for drug-sensitive pulmonary TB. The new regimen reduces DOT by 30%. The trial was conducted by the TB Trials Consortium (TBTC), a CDC-funded consortium of clinical investigators.

- In May 1999, these investigators published the first experience with the use of rifapentine in HIV-positive persons with TB. Five of 30 patients on HP1 relapsed, compared to three of 31 in the HR2 group. **Four of five HIV-positive relapses in the HP1 group had acquired rifamycin monoresistance.**

- Study 22 randomized 502 HIV-negative patients to each regimen. Failure/relapse was moderately higher in patients on the HP1 regimen (crude rates 9.6% vs 5.8%; relative risk 1.66 [95% CI 1.06-2.58]). Significant risk factors for treatment failure or relapse included having a positive sputum culture at two months, and presence of cavitation on chest. Patients with either risk factor had a four to five times greater risk of adverse outcome in both arms. There was no acquired rifamycin monoresistance in the HP1 arm.

- **Study 22 found that the new regimen of once-weekly isoniazid and rifapentine may be used effectively in low-risk HIV-negative patients, who comprise almost 50% of HIV-negative TB patients**. **Study 22 also demonstrated that high-risk HIV-negative patients are presently often undertreated, even with accepted standard therapies.**

1. Vernon AA, Burman W, Benator D, Khan A, Bozeman L, et al. Acquired rifamycin monoresistance in patients with HIV-related tuberculosis treated with once-weekly rifapentine and isoniazid. *Lancet* 1999; 353:1843-1847.

2. Vernon AA, for the TB Trials Consortium. TBTC Study 22 (Rifapentine Trial): preliminary results in HIV-negative patients. [abstract]. *American Journal of Respiratory and Critical Care Medicine* 2000; 161(suppl):A252.

3. Catanzaro A and Horsburgh R, for the TB Trials Consortium. TBTC Study 22: risk factors for relapse with once-weekly isoniazid/rifapentine (HP) in HIV-negative TB patients. [abstract]. *American Journal of Respiratory and Critical Care Medicine* 2000;161(suppl):A252.

4. Gordin F and Chaisson R, for the TB Trials Consortium. TBTC Study 22: risk factors for relapse with twice-weekly isoniazid/rifampin (HR) in HIV-negative TB patients. [abstract]. *American Journal of Respiratory and Critical Care Medicine* 2000;161(suppl):A252.

(Manuscripts derived from 2, 3, and 4 are currently under revision.)

U.S. - Mexico Border TB Control Recommendations

In order to develop specific strategies to meet the challenges of TB control and case management in the American states bordering Mexico, the Division of Tuberculosis Elimination convened a working group of TB-control officials from the border states affected. The deliberations of this working group can be found in the *Recommendations and Reports (R&R)* issue of the *Morbidity and Mortality Weekly Report (MMWR)* published January 19, 2001. The recommendations outline steps that local, state, and federal TB programs can take to improve TB prevention and control in border areas for four main topics:

- Surveillance, which may include a binational case registry and a uniform case definition to enable standardized data collection and increase accuracy in data analyses.
- Case management and therapy completion, which includes addressing the complexity of case management across international borders.
- Performance indicators, which should include targeted TB testing among border populations, linkage of laboratory data regarding binational TB patients diagnosed in Mexico, and evaluation to facilitate the most effective means of contact tracing.
- Research, to address the needs of binational patients and their close contacts, and patients who acquired TB in Mexico or Central America and their contacts in the United States. Research findings should be used to develop strategies for active case finding as well as for targeted testing and treatment of populations at risk for TB infection, and promotion of regional TB control efforts along the U.S.-Mexico border.

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The Use of Contact Investigation to Prevent TB Among Persons with HIV Infection

HIV infection is the greatest known risk factor for developing active TB. Based on state health department comparisons of TB and HIV registries, it is estimated that TB cases with HIV coinfection comprise approximately 10% of U.S. TB cases. Investigating the contacts of infectious TB patients is important to both AIDS prevention and TB elimination since it provides an opportunity to diagnose HIV, treat and prevent TB, and link HIV-positive contacts to care. This study sampled over 1,000 infectious adult TB patients at 11 urban sites and examined their close contacts (6,225). Few contacts (13%) had known HIV status, but certain groups were more likely to have unknown HIV status: U.S.-born persons, non-white persons, children, and females. Of those contacts with known HIV status, 28% had no documentation of receiving a chest radiograph as part of the medical evaluation for active TB. Thirteen percent of HIV-positive contacts had active TB, compared with 5% of HIV-negative contacts. Of HIV-positive contacts with TB infection but no TB disease, only one-third started treatment for latent TB infection (LTBI) to prevent progression to disease, and only one-half of those completed treatment. Because TB contact investigation provides an opportunity for

early identification and prevention of active TB disease, TB and HIV providers should collaborate to offer voluntary HIV counseling and testing to all close contacts early in the medical evaluation process; and to fully evaluate and treat HIV-positive contacts.

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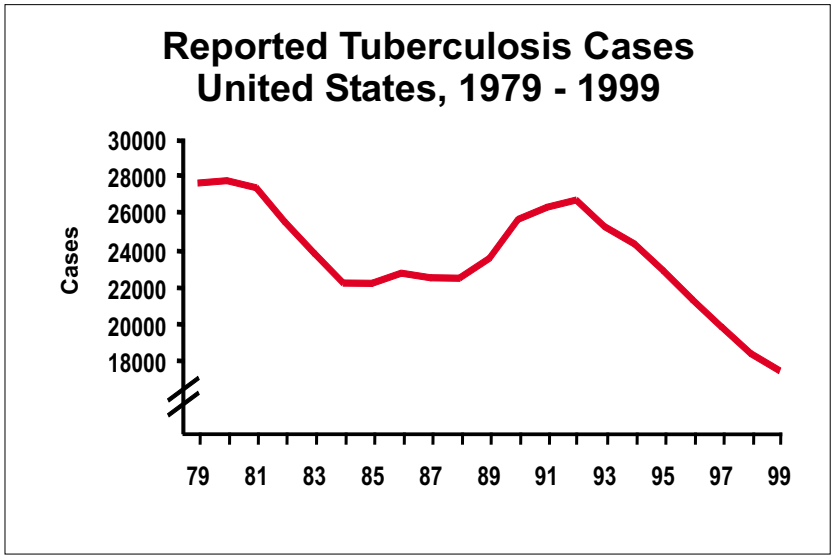
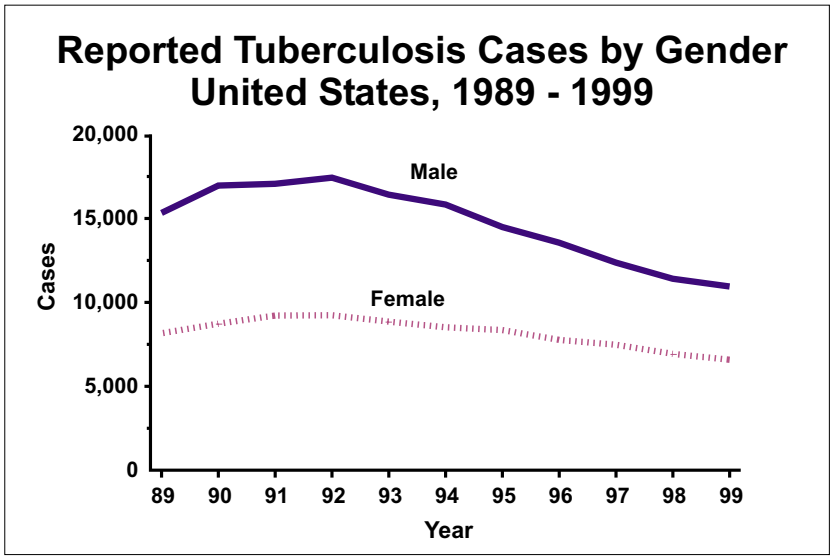
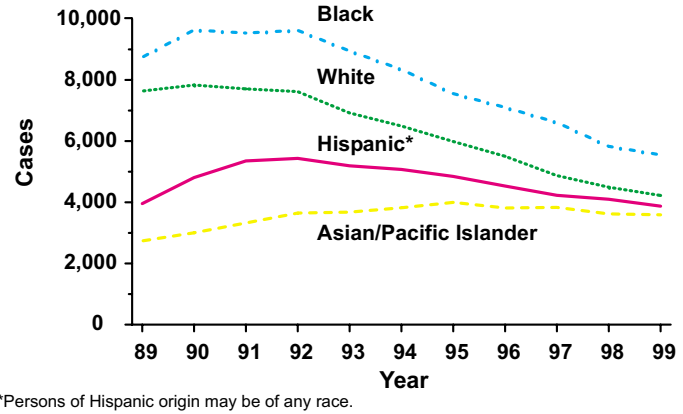


	Cases
79	27,669
80	27,749
81	27,373
82	25,520
83	23,846
84	22,255
85	22,201
86	22,768
87	22,517
88	22,436
89	23,495
90	25,701
91	26,283
92	26,673
93	25,287
94	24,361
95	22,860
96	21,337
97	19,851
98	18,361
99	17,531



	Male	Female
89	15,334	8,158
90	16,966	8,729
91	17,069	9,214
92	17,433	9,236
93	16,423	8,854
94	15,833	8,517
95	14,494	8,348
96	13,560	7,765
97	12,371	7,474
98	11,413	6,935
99	10,948	6,582

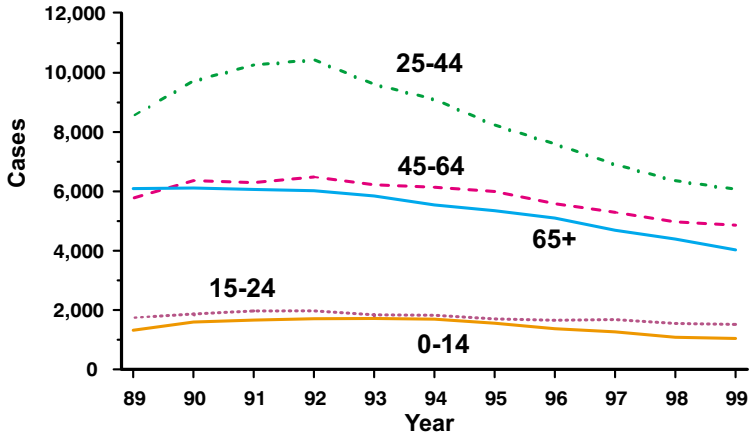
Reported Tuberculosis Cases by Race/Ethnicity, United States, 1989 - 1999



*Persons of Hispanic origin may be of any race.

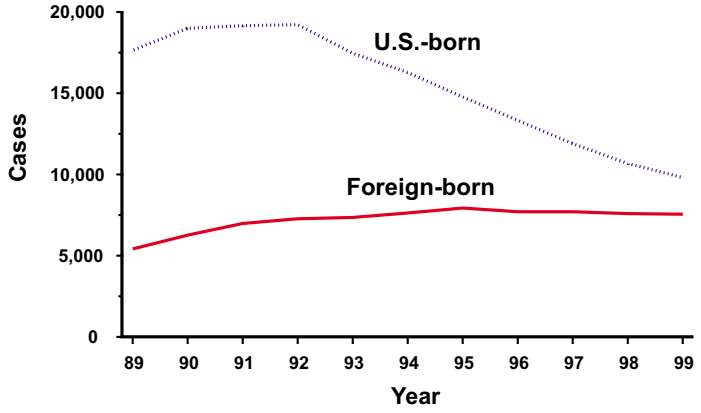
	Hispanic*	White	Black	Asian/Pacific Islander
89	3,958	7,638	8,743	2,738
90	4,809	7,836	9,634	3,004
91	5,354	7,709	9,536	3,324
92	5,437	7,618	9,623	3,649
93	5,194	6,922	8,951	3,680
94	5,074	6,494	8,345	3,821
95	4,847	5,989	7,555	3,997
96	4,533	5,506	7,106	3,814
97	4,228	4,872	6,610	3,833
98	4,099	4,495	5,831	3,623
99	3,875	4,224	5,552	3,591

Reported Tuberculosis Cases by Age Group, United States, 1989 - 1999



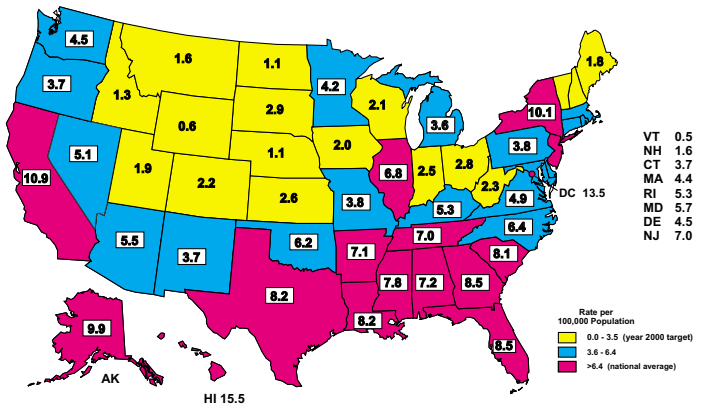
	0-14	15-24	25-44	45-64	65+
89	1,321	1,742	8,549	5,777	6,096
90	1,596	1,867	9,730	6,365	6,115
91	1,662	1,971	10,263	6,297	6,068
92	1,707	1,974	10,444	6,487	6,025
93	1,718	1,841	9,615	6,225	5,847
94	1,695	1,825	9,106	6,141	5,546
95	1,558	1,703	8,241	5,998	5,351
96	1,372	1,656	7,604	5,588	5,103
97	1,265	1,681	6,912	5,297	4,691
98	1,082	1,548	6,365	4,973	4,393
99	1,044	1,516	6,078	4,862	4,028

Reported Tuberculosis Cases by Origin United States, 1989 - 1999

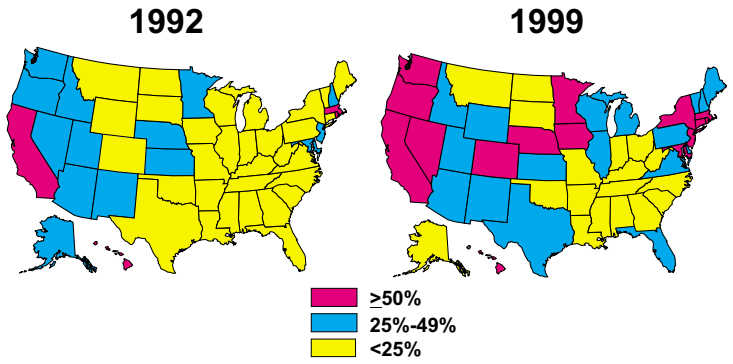


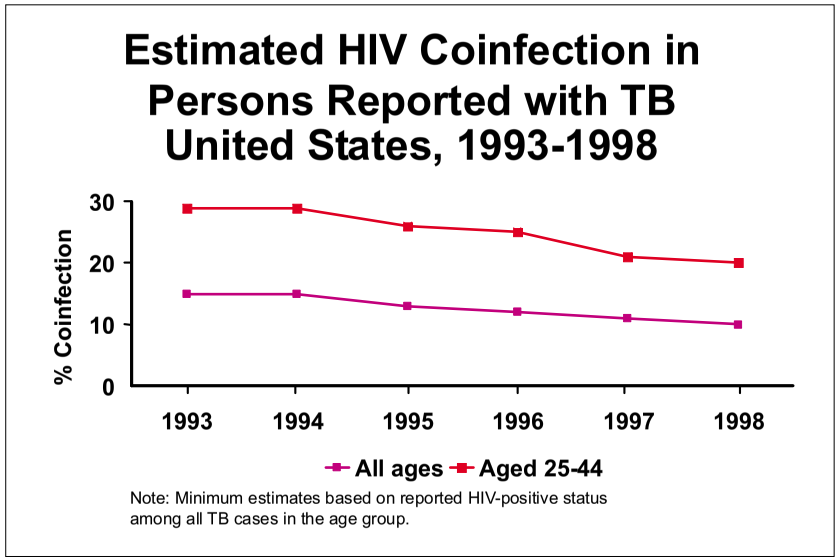
	Foreign-born	U.S.-born
89	5,411	17,646
90	6,262	18,997
91	6,982	19,161
92	7,270	19,225
93	7,354	17,464
94	7,627	16,278
95	7,930	14,772
96	7,704	13,333
97	7,702	11,898
98	7,591	10,675
99	7,553	9,809

Tuberculosis Case Rates, United States, 1999



Percentage of TB Cases Among Foreign-born Persons




Estimated HIV Coinfection in Persons Reported with TB United States, 1993-1998
% Coinfection
30
20
10
0
1993
1994
1995
1996
1997
1998
All ages
Aged 25-44
Note: Minimum estimates based on reported HIV-positive status among all TB cases in the age group.

Global AIDS Program (GAP)

Organizational structure under review

NCHSTP Global AIDS Program (GAP)

Background: In fiscal year 2000, the U.S. government launched the Leadership and Investment in Fighting an Epidemic (LIFE) initiative with a $100 million increase in U.S. support to 14 countries in Africa and India. CDC, in association with other DHHS agencies, is working in close collaboration with the U.S. Agency for International Development (USAID) and other federal and local agencies to implement the LIFE initiative as the U.S. contribution to the International Partnership Against AIDS in Africa (IPAA) and global efforts beyond Africa. GAP mirrors the CDC National HIV Prevention Strategic Plan's international goal to assist in reducing HIV transmission and improve HIV/AIDS care and support in partnership with resource-constrained countries. CDC's objective is to work in partnership to help:

- Reduce HIV transmission through primary prevention of sexual, mother-to-child, and blood-borne transmission.
- Improve community and home-based care and treatment of HIV/AIDS/STI and opportunistic infections.
- Strengthen the capacity of countries to collect and use surveillance data and to manage national HIV/AIDS programs.

CDC works with host countries and other key partners to assess the needs of the country and design a customized program of assistance that fits within the national strategic plan.

Accomplishments: The following major activities occurred in FY 2000:

- Following extensive discussions bringing together experts at CDC and other U.S. government and international agencies, a technical strategies document has been finalized. This document 1) summarizes the best practices in the various technical areas in which CDC will be working, 2) presents the approach CDC proposes to apply in its LIFE programs, and 3) provides a road map for implementation.

- Each of the 15 LIFE-designated countries was visited by a team of two to four persons that included epidemiologists, laboratory scientists, behavioral scientists and public health advisors. These teams were tasked with presenting the LIFE initiative to in-country partners, assessing the country's HIV priorities and needs and, based on these discussions, to draft a program plan that would identify priority areas for CDC's in-country LIFE activities.

- GAP has created a series of agreements with U.S. governmental agencies, non-governmental agencies, and international organizations with expertise in HIV prevention and care, to more rapidly implement its in-country LIFE programs. These include agreements with USAID, the Health Resources and Services Administration (HRSA), and UNAIDS.

- GAP's priority in this first year of activity was to identify and assign individuals for in-country assignments to implement the CDC-LIFE program plans. This effort built on the existing CDC presence in several countries (Botswana, Côte d'Ivoire, Kenya, Uganda) as well as recruiting staff to initiate activities in countries having no pre-existing CDC presence. At present, 31 individuals have been identified to staff the offices in 12 of the 15 LIFE countries.

Challenges:

- Continue to implement HIV prevention and care programs and expand to scale programs in the initial LIFE countries in collaboration with USAID and other partners;
- Expand activities to Asia, Latin America, and other countries in Africa;
- Provide expert technical and administrative assistance to in-country CDC-GAP staff; and
- Continue to strengthen links with other governmental and non-governmental organizations to implement CDC-LIFE programs more efficiently.